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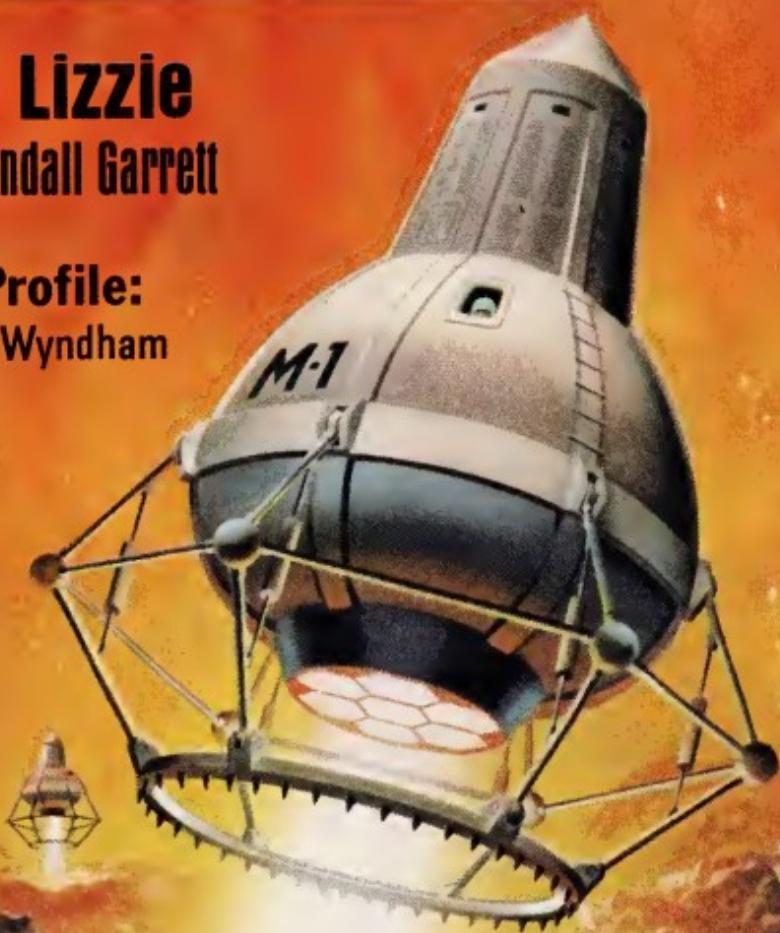
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Tin Lizzie

by Randall Garrett

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Fact and Science Fiction

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stories

JUNE, 1964
Vol. 38, No. 6

REG. U. S. PAT. OFF.

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Cover: Alex Schomburg

Illustrating Tin Lizzie

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editorial

COVER artist Alex Schomburg is noted for his meticulous attention to detail, and for the precise accuracy of his scientific imaginings. This month's cover (*Tin Lizzie*) is no exception. And Randall Garrett's story comes close to anticipating what is rapidly becoming fact rather than fiction.

Not long ago the Ford Motor Company, whose famed Model A was the first "tin lizzie," received a contract from the Manned Spacecraft Center of NASA to investigate the practicalities of a Martian taxi that would be used to ferry astronauts between the surface of the Red Planet and an orbiting spaceship. The MEM (Mars Excursion Module) would be able to land several explorers on the planet and remain there for about a month before having to return to the mother ship.

SOMETHING new has been added to the "Abominable Snowman" files. A Soviet sci-

tist now believes the mythical snowman to be one of the few survivors of Neanderthal man. Various sightings of the strange hairy creature have been noted in the Soviet journals. Now Prof. Boris Porshnev, of the Soviet Academy of Sciences, proposes that the snowman is actually the descendant of short, thickset, hairy, apelike *Homo Neanderthalensis*.

The last reported sighting of an abominable snowman was in 1958, when a Russian scientific expedition moving up Fedchenko Glacier of 25,000-foot Mount Communism (then Mount Stalin!) saw a two-legged, hair-covered creature emerge from an ice cave. Perhaps the only weight that can be given to Prof. Porshnev's theory is that he is an authority on West European history . . . and that Neanderthal man got his name from a narrow valley in West Germany.

Or maybe the whole thing is only a devious Soviet way to approach the German problem.

TIN LIZZIE

By RANDALL GARRETT

Illustrated by FINLAY

When they built the old space taxis, they built 'em to last. When they made men like Gen. Challenger, they made them to last, too. And lucky things these both were for the men of the Mars-12-X.

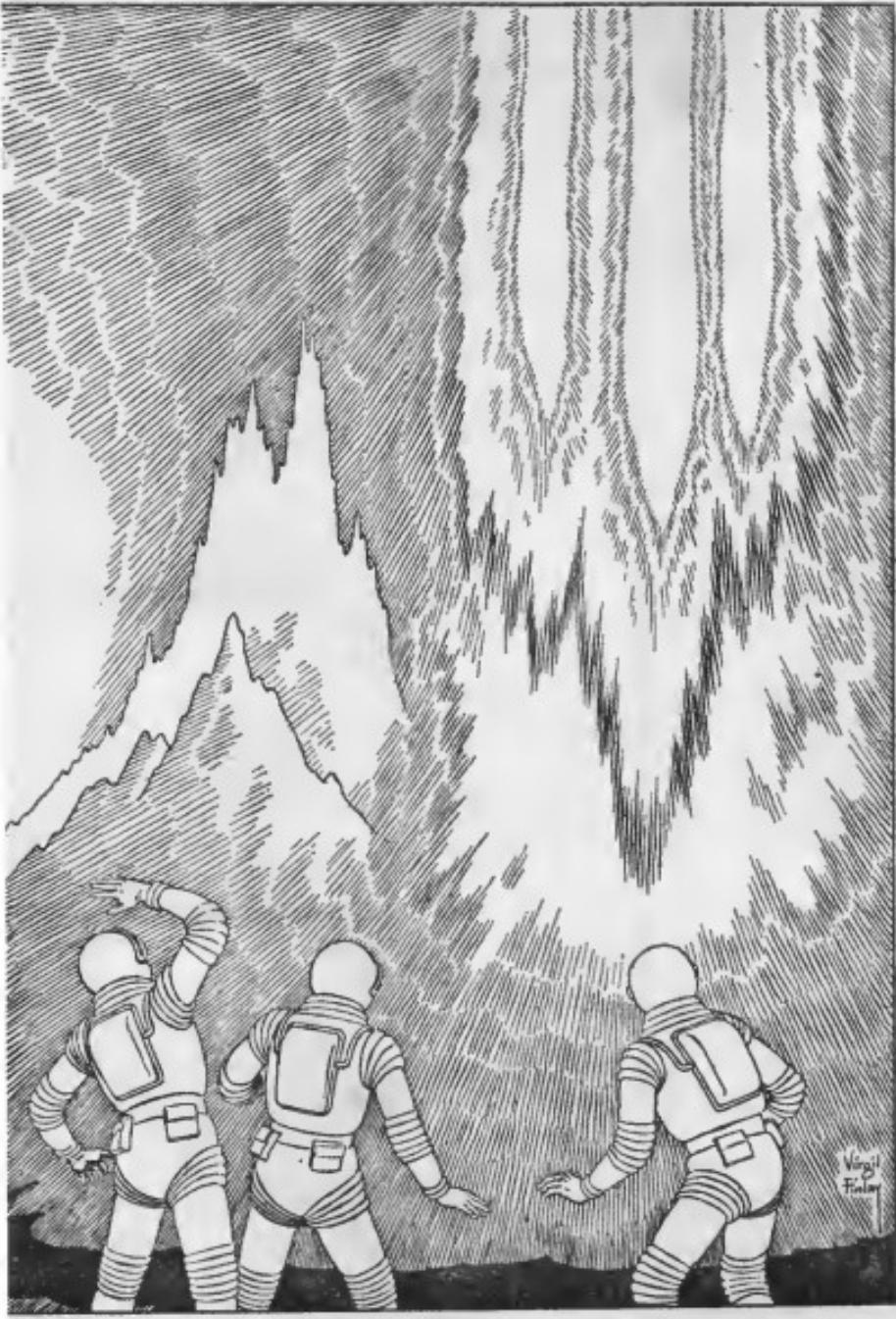
"The trouble with too many people," said the Engineer, "is that they think that 'outmoded' means the same as 'useless'. They think of a rifle as a deadly weapon and a crossbow as a quaint toy. They don't stop to think that a stone axe can kill a man just as dead as an H-bomb can. An axe is

as efficient now as it ever was."

—THE IDLE WORSHIPPERS
by R. Philip Dachboden

THE tugship *Jove 7* caught the beamed message as she was heading Lunwards on her regular run from the Jovian Atmosphere Mining Plants orbiting





around the giant planet. The tug-ship was well inside the Asteroid Belt, heading toward the orbit of Mars when the signal, faint, but clear, came in.

Mayday — Mars — Mayday — Mars — Mayday — Mars —

Sam Arkwright, a brown-haired, lean-faced man who had the kind of face that looks perpetually worried whether the mind behind it is worried or not, checked his instruments carefully. Mars was a way off to one side but was still well ahead of the J-7. The signal was beamed, all right; it would have to be to carry this far. But the beam was spread. Evidently whoever was sending the signal knew about where the *Jove 7* was supposed to be at this time and had aimed accordingly and hoped like hell.

Arkwright aimed his own outside antenna at the red planet and sent back an answer signal. It would be several minutes before there would be any answer.

"Chan! Take a look at this!" he called, keeping his eyes on the instruments.

Chandra had been sitting across the control room taking a navigation fix, but when he had seen Arkwright suddenly snap to attention and start working the communication controls, he had come over to where Arkwright was sitting.

"A mayday from Mars?" the dark-skinned, dark-eyed Asian

asked of nobody in particular. "Who the hell would be on that God-forsaken lump of nothing?"

"Probably from Deimos or Phobos," Arkwright said. "With their beam spread that wide, we can't pinpoint 'em any closer at this distance."

"Anyone else any closer than we are?" Chandra asked.

Arkwright took a quick glance at his ephemeris and his flight schedule listings. "No scheduled jobs. But there aren't any schedule jobs supposed to be anywhere near Mars right now, anyhow."

"Well, they know our schedule—approximately, at any rate—or they wouldn't be able to beam us."

Mayday — Mars — Mayday — Mars — Mayday — Mars —

The monotonous message kept coming in without change.

"Let me know when they answer," Chandra said. "I'll feed the orbit change into the computer."

"Suppose we ought to wake up Bjornsen and let him know?"

"No need for it. We can tell him when I get ready to go."

He started programming the computer for a change of orbit that would take the *Jove 7* into a Mars-approach orbit.

ARKWRIGHT went back to his instruments. Bjornsen slept on.

Three men in a boat.

The *Jove 7* was a tugship pulling a sphere of cargo behind her—half a million metric tons of fixed nitrogen—in the form of liquid N₂H₄. They were headed toward the factories of Earth's moon at a steady acceleration of five hundred centimeters per second squared—one half of a Standard Gee. At the halfway point, the tugship would cut acceleration, free herself from the sphere, go around to the other side, latch on again, and reverse acceleration, eventually putting the sphere of liquid into orbit around Luna, where the little jumpships would come up to her, load up, and carry the stuff down to Luna a few thousand tons at a time.

Except, of course, that things would no longer work out that way. A Mayday Call in space is always considered a matter of life and death.

The new orbit was actually two orbits. Both had to be computed separately.

The cargo sphere itself would be cut loose and allowed to fall toward the general direction of Earth's orbit at the velocity she had already attained, augmented only by the pull of the sun, with minor perturbations by the planets. A beeper radio would be put on her so that the tugship, knowing approximately where she was, could make close contact later.

The tugship itself would head Marsward on a high-acceleration orbit.

Mayday — Mars — Mayday — Mars — Mayday — Mars —

By now, Arkwright thought, there should have been an answer. The sender was automatic, of course, but there should be someone standing by to reply. Maybe there was only one man and he was asleep. Maybe there was no one left alive at all. Maybe their receiver was out of order. Maybe—

Hell, maybe a lot of things.

Wait and see.

Chandra said: "No answer?"
"Nothing."

"Okay. Go wake up Sven. We have twenty-one minutes before the tick."

Sven Bjornsen was already sitting on the edge of his bed when Arkwright came down the hatch. There was nothing odd about his being awake, even though he still hadn't finished but five of his allotted eight hours sleep. He had heard Arkwright coming down the ladder. A spaceman learns to react immediately and to come fully awake at the first sound of something unusual. If he doesn't learn that, he doesn't often come awake at all.

On the other hand, Bjornsen knew it wasn't a Triple-A-One Emergency or Arkwright would have been in a devil of a hurry, and no bells were ringing.

"What's happening Ark?"

"Get ready for high acceleration; we're cutting the bubble loose. Mayday call, Mars."

"Who is it?"

"Don't know. No reply to our signal yet."

"Why would anyone want to land on that hellish planet?" Bjornsen asked of no one in particular. "No wonder they're in trouble."

"They're probably not on the planet itself," Arkwright said. "My guess is Deimos or Phobos—or it may be a ship in orbit."

"You said the call was 'Mayday, Mars'?"

"S right."

"If they'd meant Deimos or Phobos, they would've said so, wouldn't they? They're either on the planet itself or in orbit around it."

Arkwright looked thoughtful. "Maybe. If they're on the surface, atmospheric distortion could account for the spread and the weakness of their beam. But why would anyone want to land there?"

"Don't ask me. We'll ask them when we get there."

BY the time the tugship *Jove 7* had cut loose from the bubble and was ready to head for Mars, there had still been no answer from the Martian transmitter, which was still beaming out its steady Mayday call.

The three men strapped themselves in for high acceleration and the powerful little tugship launched itself toward Mars at five Standard Gees—five thousand centimeters per second squared.

Arkwright swung the beam antenna toward Luna and locked in. Then he started an automatic signal heading toward Luna.

Relay Mayday—Relay Mayday—Relay Mayday Mars—Jove Seven Relay Mayday—Relay Mayday Mars—

Eventually a reply came from the powerful transmitter on Earth's moon.

Have your relay, Jove Seven. Give details.

No details. Identity sender unknown. No reply to our signal. No signal from them except Mayday Mars. Signal weak. Wide beamspread.

There was a longer wait this time before the reply came.

Luna to Jove Seven. That's a non-sked. Scientific expedition under auspices American Museum Natural History. Last reported to us nine hours ago as arranged. Next report due in fifteen hours. No trouble as of last report. Intention was to land on planet. You are closest ship. Next closest three days away. Do what you can. Report to Luna regularly.

"Let's hope they didn't land," Arkwright said in a low voice.

Five gees of acceleration pressing his chest made talking difficult.

"Um," said Chandra.

Bjornsen said nothing.

They both knew what Arkwright meant. It would be impossible to land the *Jove 7* on the surface of Mars.

Mars, like Earth, has an abnormal atmosphere. No normal planet has a strong oxidizing atmosphere like Earth's. That much oxygen simply cannot exist in a free state in a universe that is 99% hydrogen. Only living things could produce such an atmosphere.

The atmosphere of Mars is more strongly oxidizing than that of Earth. The oxidizing agent that constitutes a high percentage of its "air" is not free oxygen, but a compound of oxygen, a reddish-brown gas known as nitrous anhydride or dinitrogen trioxide— N_2O_3 . It is primarily that gas that gives Mars the reddish color that it exhibits from a distance. The atmosphere is also loaded with nitrous and nitric acids in vapor form.

These compounds don't bother the low forms of life that live on Mars; it is those life-forms that are responsible for its being there, just as it is the life-forms of Earth that are responsible for its oxygen atmosphere.

But the cupro-aluminum hull of the *Jove 7* wouldn't last long enough to allow them to land if

her crew tried to take her down through that hellishly corrosive atmosphere.

As the tugship shot through space toward her destination, the three men thought about the problem that lay ahead.

Space in itself can be a deadly killer. The men who worked in the Asteroid Belt to bring metals to Earth, and the men who worked from the moons of Jupiter, using scoopships to "mine" the atmosphere of that giant planet for its ammoniacal gases, were men who had learned by experience that space was deadly. Not vicious, not vindictive—just deadly. A man who failed to think clearly, who failed to reason ahead . . . died. Not "sooner or later," but sooner.

Mars was of little commercial worth. True, it had plenty of fixed nitrogen, in the form of oxides, but Jupiter was by far a better source, even though the giant planet was much farther from Earth. The scoopships that dived into the atmosphere of Jupiter at high velocity, compressing the atmosphere as they went, relied on the tremendous gravitation pull of the planet to give them that high speed, so that they could use just enough power to make the scoop and go out again on a hyperbolic orbit. The low gravity field of Mars, and the relative thinness of its atmos-

sphere made it a poor prospect for atmosphere mining. In addition, the "air" of Mars was an oxidizing atmosphere while that of Jupiter was a reducing atmosphere. Metals won't burn on Jupiter the way they will on Mars.

What made Mars interesting was its life-forms. Utilizing the energy of the sun, those life-forms were nitrogen-fixing on a vast scale. Such life-forms, if they could be "tamed," would be of tremendous importance to Earth.

The atmosphere of Earth is nearly eighty percent "free"—uncombined—elemental nitrogen gas. Terrestrial plants and animals need nitrogen, but not as N₂ gas. It must be "fixed"—combined with other elements to make compounds that plants and animals can use. Some of Earth's nitrogen is oxidized by lightning; some is forced into combination by nitrogen-fixing bacteria. But these two processes alone do not supply nearly enough fixed nitrogen to grow the vast amounts of food needed to satisfy the hunger of six and a half billion people. Fixed-nitrogen fertilizer was needed in million-ton lots. And Jupiter could supply it more economically than Mars could—unless the nitrogen-fixing life-forms of Mars could be utilized for that purpose.

That had been the primary

reason for the scientific expeditions to the otherwise useless fourth planet. But Mars, in spite of its small size, lacks seas; its total land area, therefore, is larger than that of Earth. So far, none of the plants discovered on Mars were capable of fixing free nitrogen; they used the dinitrogen trioxide of the air for their needs.

By the time the *Jove 7* had braked herself into an orbit around Mars, there was no question about the location of the transmitter that was sending out the Mayday call.

Arkwright checked his instruments to make sure of the exact location. "Right in the middle of the Xanthus Desert," he said bitterly. "Let's hope we can help 'em some way. We sure as hell can't go down after 'em."

He focussed his own antenna on the spot again and called out his identification. After a couple of minutes, a weak answer came.

"*Jove 7*, this is the *Mars 12-X*. There's a hell of an electrical storm down here, and we can't receive you very well. We're lucky we got through at all."

"What's the trouble?" Arkwright asked.

"The hull of our ship sprang a leak. Acid gases have corroded everything. Engines disabled, controls shot. We're living in our suits—and you know how long that can go on."

Arkwright glanced at his two partners. "Yeah," he said into the microphone. "How many of you are there?"

"Four. I'm Harley Jacobs; my partner is Lewis Nostrand. We have two passengers: Dr. Tatsu Nakomura and Dr. Fabian Smith."

"What caused your hull leak?"

There was a pause, then Jacobs said: "That's the funny part of it. We don't know."

CHANDRA positioned himself carefully against one wall of the control room and looked at Bjornsen and Arkwright. Since the tugship was in a free-fall orbit, the three men were weightless, but a null-gee condition was nothing new to them.

"Well," Chandra said, "either of you guys got any suggestions?"

Arkwright rubbed a knuckle across his upper incisors and stared at nothing in particular. Bjornsen looked blankly thoughtful.

It was a matter of time. Luna Station had been appraised of the situation and had had one reply: "There is no other ship that can make it in time."

The air supply in the space-suits of the men on the surface of Mars simply wouldn't last long enough. By the time any rescue ship came, all four of the men in the *M-12-X* would be

dead. All they had left was the air in their suit tanks; the air supply of the ship was polluted with the poisonous acid vapors of the Martian atmosphere. The apparatus for breaking down CO₂ into carbon and oxygen to replenish the air was utterly useless because of corrosion.

Problem: Four human beings, at the bottom of one of the most corrosive atmospheres in the Solar System, in a rather shallow gravity well and at a point where that gravity well has a potential of approximately point three seven Standard Gees, are going to die very shortly unless someone does something about it.

Additional Factors: The only ship within range has a drive that can easily overcome the gravitational obstacle, but its hull is made of cupro-aluminum—an alloy that works just fine in the vacuum of space, but is not meant for landing on any planet with an atmosphere. Especially not an atmosphere composed of the acids of nitrogen. The fact that the *Jove 7* had no landing gear whatever was of no importance in the face of the fact of the composition of her hull.

Actually, a tugship is not built to land on any body with a gravitational pull at the surface of over a tenth of a Standard Gee.

It can be done, but only if the drive is kept on continuously in order to hold her upright. A tug-

ship is shaped something like a football—a prolate spheroid. The direction of the drive is along the long axis. Ever try standing a football on end?

And once the *Jove 7* fell over, so that her drive was at right angles to the planet's surface, getting her up again would be well-nigh impossible.

A tugship is similar to an ocean liner in that respect. She's fine in her element, but don't try to make her do a job she's not suited for. Her purpose is to apply power—vast amounts of power—to millions of metric tons of stuff that has to be ferried through space. Most of her hull is full of drive mechanism and power plant, with just enough room left over for a three-man crew. Considering that a tugship is a hundred meters long and sixty meters in diameter (*The Jove 7* would overlap a football field at both ends), and that there is very little room inside her for three men, it is easy to see that she packs a hell of a lot of power.

ALL by herself, the *Jove 7* could — *theoretically!* — accelerate at over a million gravities. That would, of course, destroy her. An awful lot of the space inside her is taken up by safety mechanisms that insure her a top acceleration of ten—with an override which will allow fifteen in special cases.

But all her bracing is along the longitudinal axis. A tugship is like a tall building—she sits up fine, but if you lay her on her side, she'll break.

Jove 7 had been built in space and had never landed on a planet. To get down to Luna or to Earth, her crew would have to take one of the little jumpships. She would be parked in a stable orbit, and then a jumpship would come up, latch on, and transfer her crew to the planet below.

Land her on Mars?

Impossible.

And every man jack aboard her knew it.

"Leaky hull." Bjornsen's voice sounded sort of dreamy. "Funny."

"Nothing so damn funny about it," Arkwright muttered. "We'd have a leaky hull damn soon if we tried to land on that hellhole."

"Yeah," said Bjornsen, still dreamily thoughtful, "but they have a steel hull—which doesn't react rapidly to nitrogen acids—and a Teflon coating which does not react to any known acid or mixture of acids. And yet Jacobs doesn't know where she's leaking or how. Same thing happened to the Second Expedition, you know."

"Wasn't the Second," said Arkwright. "Third, I think."

"Second," said Bjornsen firmly. "The boys left two of their

jumpships—they called 'em 'space taxis' then—on Phobos because of the leaks."

"Oh, yeah," Arkwright said. "The Mars Monuments. You're right."

"What about it?" Chandra asked.

"Nothing," Bjornsen admitted. "It just went through my mind. They were coated with Teflon, too. And both of their 'space taxis' developed leaks."

"That's why they left 'em behind on Phobos," Arkwright said.

If there had been any gravity, Chandra would have stood up straight or even leaped from his chair. "*Phobos!*" He straightened up with a snap. "By God, that's it!"

Arkwright and Bjornsen looked at him blankly.

"What," asked Bjornsen cautiously, "is 'it'?"

Arkwright got it. He looked at the lean Indian with an expression like that of a mare who has just discovered that her foal is a mule.

"Are you out of your bloody mind, Chan?" He waved a hand in the air. "Those damn things are eighty years old!"

"They made it once," Chandra said softly. "They may make it again. Can it hurt to go look?"

By that time, of course, Sven Bjornsen knew what they were talking about. He closed his eyes.

THE two ancient "space taxis" stood stark in the harsh sunlight, both anchored securely to the surface of little Phobos. The satellite itself was less than ten miles in diameter and had a surface gravity on the order of one ten thousandth of a Standard Gee or less—which meant that landing the *Jove 7* presented only the problem of anchoring it to the surface.

Sven Bjornsen stayed in the tugship while Chandra and Arkwright put on spacesuits and climbed across the rocky, irregular surface of the airless little moon toward the spot where the first of the primitive spaceboats were anchored to the surface. The other was a hundred meters or so away.

"Climbed" is the proper word. A man cannot walk—in the Earthly sense of the word—across the surface of a body with a gee pull of ten to the minus fourth SG. If he doesn't hold on tightly, just as though he were climbing the side of a mountain, the shove of one leg is sufficient to push him far enough from the surface that he will be hours in coming back down. Both Chandra and Arkwright were connected by a safety line to the tugship.

From the landing rings to the peak, the spaceboat stood ninety-five feet above the surface of Phobos, held down by four ca-



bles that were attached to the rock by means of heavy pitons driven deep into the stony surface. The two men stood upright near the base of the ship and looked upwards.

The spacecraft stood just as it had for three-quarters of a century and more. There was no air inside her; her airlock stood partly open. A few yards away, bolted to the surface rock, was a metal plate, put there by a later expedition. Neither man went over to look at it; they knew what it said, as did every schoolboy.

*IN PERPETUAL MEMORY
OF*

James Thornton Brown

and

Alec Dupres Fornier

who gave their lives

that their crewmates might live

Below that was the date and the identification of the Second Martian Expedition.

Chandra was the first to speak. "You know, Ark, I just remembered something that makes me feel very foolish."

"Congratulations. What is it?"

"We haven't got any way to fuel this damned thing, even if it is in perfect working order."

Arkwright swiveled his head in his fishbowl helmet and looked at the Indian. "You spent an hour or more telling us that all the fuel—both oxidizing and reducing agents—had been left on

board when the ships were left. I remind you of the obvious." There was more than a trace of sarcasm in his voice.

Bjornsen's voice came over the 'phones. "Yeah." The same sarcasm was in his voice. "As Great Official History Expert, you are falling down on your job, Chan."

"I blush," said Chandra without doing so. "But I just now remembered what these museum pieces used for fuel. Red fuming nitric acid and hydrazine. It's a hypergolic combination. Doesn't need anything to fire it. As soon as the two components mix in the engine, they catch fire spontaneously."

"And what does that have to do with the price of incense on the Upper Ganges?" Arkwright asked.

When he spoke, Chandra's voice actually sounded a little embarrassed.

"Well, you remember there was a nitric acid leak aboard both these ships? That's why they were left behind. It's one of those historical facts that everyone remembers wrong—you know, like the notion that Henry VIII started the Church of England. Everybody assumes that the acid fumes came from a hull leak. But that isn't so. I remember reading that these ships kept their interior pressure higher than that of the atmospheric pressure of Mars' surface. Any

leak would have been *out*, not *in*. The leaks actually came from the oxidizer tank."

After a short silence, Arkwright said: "Oh, great. Well, we might as well take a look anyway."

CLIMBING the sixty-odd feet up the side of the old spaceboat was no more difficult than moving over the surface of the tiny Martian satellite itself; it was a matter of moving mass, not shifting weight. Even if a man fell from the top of the spaceboat, he wouldn't hurt himself, since his velocity when he hit would be on the order of nine hundred feet per hour. Time-wise, however, it would be somewhat inconvenient—it would take him six and a half hours to fall.

Arkwright gripped the edge of the airlock with one hand and pushed in on the partly open door with the other. It moved in easily. Chandra followed him in. He waited in the airlock itself while Arkwright went on inside.

Both doors of the airlock had been left open; the interior of the ancient spaceboat had been exposed to the hard vacuum of space for nearly eighty years.

There was a prolonged silence while Arkwright played his flashlight beam around the interior of the control room—actually the only chamber in the ship. The

whole set-up—controls, instruments, radar screens, and so on—was oriented around the three acceleration couches.

"How does it look to you?" Chandra said after awhile.

"Looks okay from here," Arkwright said. "But that doesn't mean much. Have to look inside—check the wiring and so on." But there had been something in Chandra's voice that made him look up and ask: "Why?"

"Nothing, I guess. I just got a sudden feeling of futility, that's all." He waved a hand in a gesture that took in the whole of the ancient hulk around him. "It seemed like a good idea at first, but . . ." He let his voice trail off.

Bjornsen's voice came over the phones. "What's the matter? Is the place a wreck or something?"

"No. It looks as new as it did the day the Aerospace Division of the Ford Motor Company built it." He paused. "But I don't know what half these instruments are for!"

BRIGADIER General Edwin E. Challenger, USAF Ret., was a hundred and four years old. He didn't look it. Modern geriatrics, a genetic inheritance from long-lived parents and grandparents, a sensible diet and physical regimen, and the fact that he had lived for forty years under the one-sixth Gee of

Luna had all combined to keep him in excellent physical condition. His hair was pure white and was thinning a little, and his tanned skin was covered with a network of fine wrinkles, but he didn't look much older than he had forty years before when he had retired and come to the Moon to spend the remainder of his life in comfort. His eyes and his mind were as clear as they had been when he was thirty.

He was quietly relaxing with an old detective novel and a tall glass of bourbon-and-branch when the phone chimed. He carefully put a bookmark between the pages of *The D. A. Cops A Plea* and put it on the table beside his lounging chair before answering the phone.

He listened calmly to what the man at Luna Station had to say, letting him finish without interruption. Then he said: "Those guys are out of their minds! I'll be right over!"

Before the other man could say anything, General Challenger cut off the phone.

Chief of Communications was waiting for the General when he came into the Communications Center fifteen minutes later.

"I'm terribly sorry about this, General," he said before Challenger had a chance to speak. "There was no need for Schlesser to have disturbed you. I realize that this must be a shock to you,

and I want you to realize that such a thing wouldn't be allowed except under the most dire emergency, and—"

"What the hell are you talking about?" Challenger snapped waspishly.

"Why, the—er—desecration of The Monument. I—er—realize that—"

"I don't think you realize anything, Venner. What 'desecration' are you talking about?"

"Why, I thought Schlesser told you," the Chief of Communications said, looking blank. "The men on the *Mars-12-X* are—"

"—Are stranded and in danger of dying. I dig, man."

"You what?" Venner looked even blander.

"I understand, Venner; I understand." There were times when General Challenger's slang was so old-fashioned it was incomprehensible. "You've got three men out there who want to use the Phobos spaceboats to rescue the *Mars-12-X* crew. I don't call that desecration, and neither would Brown or Fornier. I just wish they were here to do the job instead of these kids. What the hell do they know about rockets? Damn little, I'll bet."

"You'd win," said Venner. A man-carrying space rocket had not been built for nearly sixty years. The gravito-inertial engine had rendered the rocket obsolete just as the airplane had

done to the gas-filled dirigible.

"Well, at least they had sense enough to radio back for instructions instead of trying to figure out things for themselves." It wasn't a fair remark, and Challenger knew it. To try to use an unfamiliar machine without asking for instructions would be stupid, and stupid spacemen are dead spaceman.

"What do they figure on using for fuel?" the General asked. He knew the three spacemen must have something; otherwise they wouldn't have bothered Luna Station at all.

"Hydrazine and nitric acid—red fuming nitric acid."

"Good Lord man, I know that. What I don't know is where the hell they're going to get it."

"The hydrazine is easy," Venner said. "They—the *Jove 7*, that is—were pulling in half a million tons of the stuff from the Jovian atmosphere mines. They're going to rendezvous with the carrier sphere, siphon off what they need, and fuel the spaceboats with it."

"And the RFNA?" Challenger asked.

"Arkwright says that the tanks of both spaceboats are better than half full of the oxidizing agent."

General Challenger looked surprised for an instant, then looked thoughtful. "Can we still get them on the beam?" he asked.

"Yes, General. Er—we'll certainly appreciate any help you can give."

If you want to make a man feel old, Challenger thought, all you have to do is remind him that he's the only man left alive who has ever piloted a rocket-driven spaceship.

He could remember when the last veteran of World War II had died and how it had given him the feeling that at last a bit of living history had been relegated to the history books, where it belonged.

But even a bit of walking history can sometimes be useful, he decided.

ARKWRIGHT, Chandra, and Bjornsen felt a touch of awe when they heard the old man's voice come over the speaker. They couldn't have been much more surprised by the voice of Abraham Lincoln or Sir Winston Churchill.

"What's this about the RFNA tanks being half full?" the old man asked. "Have you checked anything besides the instruments?"

Chandra swallowed. "Yes, sir. We tapped both tanks for a sample. It's red fuming nitric acid, all right—as full strength as it was the day the tanks were filled."

There was the usual delay while the tight beam took its

time in traveling over the millions of miles and a return answer came. But spacemen were used to such delays.

"Then I suggest you pressurize the hulls," said Challenger, "and find out what was leaking. Both of those ships were full of N.O. when we reached Phobos. That's why we left 'em there and let out the air. Anyway, check for the leaks. If you find any, fix 'em. If you can't find 'em, keep about twenty pounds per square inch pressure inside the hull; Martian atmosphere can't leak in past that."

"Now: I'm going to warn you men that you will be risking your lives if you try to take those two spaceboats to the surface of Mars and return. Controlling a rocket isn't like controlling a gravito-inertial engine. Instead of four men dying on Mars, there may be five or six."

"Knowing that, do you still want to try it?"

He paused, waiting for their answer. When it came, he replied: "I thought as much. That answer, gentlemen, was in the best traditions of the Space Service. Now, your trouble is going to be in landing. Also, you'll have to refuel on Mars. There isn't enough RFNA in those tanks to get you back up. Fortunately, the place where you'll be landing, on the Xanthus, has plenty of the stuff lying around in pools.

There are pumps, compressors, and filters aboard for the purpose. But be sure your hydrazine tanks are full.

"The first thing to do is to go over the whole ship, so you'll be familiar with it. Now, begin at the . . ."

He spoke for an hour while the three men made notes. Then they asked questions.

Then Arkwright and Chandra began their inspection of the two ancient ships while Bjornsen blasted off toward the cargo sphere of hydrazine that was orbiting sunwards.

By the time he returned, Arkwright and Chandra were as familiar with the two spaceboats as they would ever be this side of actual use.

Twenty p.s.i. of pressure inside the hull showed no leaks. The pressure remained constant. If there were any leaks, they were so minor that they could not possibly cause any trouble.

When the fuel tanks of both spaceboats were loaded with hydrazine, and the instrument check had been made. Arkwright and Chandra matched coins to see who would take the first boat down.

Arkwright lost.

Chandra climbed aboard the first of the two spaceboats and cast free the anchors that had held it in position for eighty years.

There was no need to waste any more of the RFNA and hydrazine than necessary. The *Jove 7* was a tugship, specially built for hauling jobs. Pulling the relatively small Mark I spaceboat into an orbit a hundred miles from the Martian surface was a simple, easy job.

Using the computer on the *Jove 7* to get a precise orbit that would land the spaceboat as near as possible to the *Mars-12-X*, Arkwright relayed his information to Chandra. The spaceboat was in a tight orbit; the *Jove 7* moved a quarter of a mile away from it.

Then Arkwright spoke slowly and deliberately into the microphone.

"On the tick, Chan. You have six minutes."

Five minutes later: "You have one minute."

Then: "Seconds. Ten. Nine. Eight. . . ."

The final countdown had begun.

At "Zero", Chandra fired his rockets. The red fuming nitric acid sprayed into each rocket engine from one nozzle, the hydrazine from another. Instantly, they reacted. Blazing white tongues of power lanced from acid sprayed into each rocket engine, braking the orbiting ship. She began to drop toward the atmosphere below.

GENERAL Challenger sat in an easy chair in the Communications Central. He was relaxed, and his eyes were closed. No one else in the room knew whether he was dozing or not, but all the technicians walked and talked softly on the assumption that he was.

The General was contented with that. He wasn't dozing; he was thinking. And he was perfectly happy with the quiet that allowed him to do so.

The first boat was down safely. Chandra had come in a shade too hard, and the landing had given him a bone-rattling jar, but nothing had been damaged.

Those old Fords were built to take punishment, General Challenger thought. *If the second lands as well as the first, the rescue might come off in spite of everything.*

He had to admit himself that he hadn't really expected the thing to get this far without accident. It wasn't that these men were untrained; quite the contrary. They knew space, and they knew the engines and the instruments and the devices that they had to use to stay alive in that deadly environment. But the machines they used were so far advanced that Challenger hadn't thought the men would be able to make the adjustment to such old-fashioned devices so quickly. It was as though an expert rifle-

man had suddenly picked up a hundred yards.

No; wait. That was a bad analogy, he realized. A gravito-inertial engine is a different form of propulsion, but the effects are similar to those of a rocket.

Keep the machine approximately the same, but change the mode of propulsion. An expert rifleman ought to become a pretty fine crossbowman with very little practice.

Hell, Challenger thought, I was trained on turbojets and ramjets, but I learned to fly an old World War One S.P.A.D. without much trouble. And it was damned near as old then as these spaceboats are now.

Well, not really, of course. The original fabric had been replaced, and parts of the struts and wiring had been rebuilt, and the engine had been completely overhauled. But if these spaceboats had been sitting on the surface of a planet like Earth or Mars, they would have needed extensive repairs, too. Lindbergh's plane, *The Spirit of St. Louis*, was still in excellent condition in the Smithsonian Institute.

Sure. Take care of a piece of machinery, and it will stay in good condition.

But it will damned well not repair itself just sitting there!

A voice was coming over the tight beam from the *Jove 7*. Bjornsen was giving Arkwright

the countdown for the landing of the second spaceboat.

"... Three. Two. One. Zero!"

A RKWRIGHT felt rather than heard the drumming roar of the rockets as he rode the spaceboat down toward the Xanthus on a fountain of flame.

Lord! he thought. How did they stand the vibration? It'd drive me nuts! And these acceleration couches aren't any great shakes, either. I'll be black and blue from the lumps.

But at the same time, there was a feeling of exhilaration, the kind of feeling he had had when he was a kid, when his dad had bought him a suit of Genuine Fiberglas Medieval Armor with Saf-T Sword—and a pony to top it off! He had slain innumerable dragons, uncountable giants, and vast hordes of villainous Saracens, had Sir Sammy Arkwright, and rescued bevyes of Fair Damosels.

He had helped other spacemen out of tight spots before, and he had saved more than one man's life by quick and daring action—just as his own life had been twice saved by others.

But he had never done it by riding a roaring rocket down on her jets! He kept his eyes on his instruments and his hands on the unfamiliar controls.

Velocity? Dropping steadily. Check.

Declaration? Constant. Check. Distance to surface? Check.

Angular velocity—Wind velocity with relation to ship and ground — Hydrazine flow — RFNA flow—All Check.

The hull temperature was rising, but it was still well within the safety limits.

Down — down — down — falling, not like a plummeting stone, but inversely to that, slowing down as he dropped rather than speeding up.

The tricky part was in turning the axis of the ship so that the rockets were pointing straight down as soon as his ground velocity had dropped to zero.

Slower and slower.

In the TV screen, he could see the Xanthus moving by through a thin red-brown haze of dinitrogen trioxide. Nothing. Empty, barren wasteland, jutting rocks wind-eroded by the thin acid wind, fine sand that drifted into fantastic dune formations. And, here and there, an "oasis" of dampness—a dampness that was caused by rivulets of liquid that drained down from the low mountains to make pools of, not water, but HNO₃ and HNO₂—nitric and nitrous acids. Under the low pressure of the Martian atmosphere, they boiled off in the daytime and never formed large lakes. Then the pools would reform at night.

Then the wide-angle lens of the exterior TV camera (And what an ancient relic that was!) picked up two objects.

The *Mars-12-X* and Chandra's spaceboat.

They were perhaps a hundred yards apart. It looked as though he were going to overshoot them by half a mile or so.

He applied more power, and the bellowing rockets increased their din in the thin air.

Arkwright's eyes darted rapidly over his instruments, back to the screen, and back to the instruments again, while his sensitive fingers manipulated the rocket controls.

The spaceboat slowed, tilted, and eased itself to the surface on a slowly diminishing shaft of roaring fire.

Arkwright's antique space-boat was only a hundred and fifty yards from Chandra's when it dropped to the yielding sand on its landing ring.

In the sudden silence, Arkwright couldn't even think of anything to say. He switched on the outside antenna.

Then Chandra's voice came into his earphones. "You okay, Ark?"

"I'm fine. Never felt better."

"I know what you mean," Chandra said. "After this, I could go to sleep on a roller-coaster. Here come the boys."

Arkwright looked at his TV

screen and switched cameras. Four men were coming out of the *Mars-12-X*.

"—all right? Are you okay?" came a chorus of tinny voices.

"Sure," Arkwright said. "You guys ready to get the hell out of this overgrown test tube?"

"Any time you are," said one voice. "We've shut off everything in our ship and we'll seal it before we leave. We have our equipment—what's left of it—sealed in Teflon bags. It won't dissolve any more now; not in a helium atmosphere."

"Okay. All we have to do now is pump some of the spare acid that's floating around here into our oxidizer tanks, and we'll be all set."

GENERAL Challenger had been tapping his fingers thoughtfully on the arm of his chair. Now he looked up at Venner. "What are they using for bacterial decontamination?"

"The men on the *Mars-12-X*? Hard ultraviolet and concentrated sulfuric acid spray. They douse the outside of their suits carefully in the airlock before entering the ship proper."

"Mmmmm. Maybe they don't infect the human body," Challenger said thoughtfully. "Vacuum kills 'em, that's for sure. On the other hand, maybe I'm nuts."

Venner looked puzzled. "I beg your pardon?"

"Just thinking aloud," said Challenger. "Let me talk to Bjornsen."

Between long pauses, the conversation went this way:

"Bjornsen, are they fueled yet?"

"Not yet, sir. Twenty, maybe twenty-five minutes yet."

"All right. While they're waiting, I want them to get some soil samples. They probably already have some, but I want fresh ones. And some samples of the ground liquid—the nitric acid mixture. Before and after it goes through the pumps and purifiers. I want 'em sealed tight, hermetically. Also tell 'em to get some samples of the air inside the *Mars-12-X*."

"Do you suspect there's something in the air or liquid that we haven't suspected yet?" Bjornsen asked. There was an odd note in his voice.

"Yes, I do. Why?"

"Because the scientific boys down there think so too. Some of the plastic fittings in their ship have corroded—and nitric acid couldn't do that. Not even RFNA could corrode those plastics. There's something in there that dissolves epoxys—or at least etched the surface. Fluorine compounds, maybe?"

"I don't know. But get those samples. Oh, yes. One more thing. Make sure that every man jack of 'em gets out of their spaceboats and stands around in

that Phobosian vacuum for at least half an hour before you let them inside your own ship."

"Right, sir. That ought to evaporate anything away."

"It should," General Challenger agreed. "But use your own decon chamber, too. Make sure they're washed off completely. Oh, and make sure of one other thing. Make sure you leave those spaceboats just like you found 'em on Phobos—evacuated, doors open and everything. I'm not just being sentimental, either, though that's part of it."

"All right, sir. We'll do just as you say."

THE blastoff of the two ancient spaceboats was much simpler than the landing had been. There was not as much need for accuracy either in position or velocity. The *Jove-7* had only to latch on to them and use its own power to move them back to Phobos one at a time.

The big adventure was over. Back to routine. Nothing had happened that hadn't been expected. Nobody was killed, nobody hurt.

The *Jove 7* picked up her cargo bubble again and computed a new orbit to take her to Luna. She was a little crowded with seven men aboard, but, aside from a slight discomfort, that was bearable.

Arkwright, Bjornsen, and

Chandra were allowed a week's leave before they began their return trip to the Jovian atmosphere mining operation. They spent part of it on Luna and part of it on Earth. Newsmen played up the rescue story for a day or two, but nobody became a celebrity. The whole thing had blown over and become dead, stale news by the time the three men returned to Luna to take the *Jove 2* out again.

But there was one more thing before they left Luna for Jupiter.

General Challenger asked to see them.

The old man had finished *The D.A. Cops A Plea* and had begun *The Case of the Guilty Client*, by the same author, when the three men presented themselves at his apartment.

"Come in, gentlemen, come in," Challenger said. "Sit down. Help yourselves to the booze. I wanted to do two things: Congratulate you on your excellent performance and tell you about some rather curious results of your little side jaunt."

The three men mixed drinks and waited expectantly. In the presence of the Grand Old Man, they hardly felt like talking.

"We have discovered," General Challenger said carefully, "that neither the spaceboats, eighty years ago, nor the *Mars-12-X* sprang any leaks."

Arkwright said, "But—" and stopped. The other two said nothing.

"We found 'em this time," the General went on. "We could have found 'em eighty years ago if we'd known what we were looking for. Bacteria, gentlemen. Bacteria. Or, rather, a microscopic life-form that's remotely akin to bacteria. They thrive on hard ultraviolet and concentrated sulfuric acid doesn't faze 'em. Any hydrocarbon compound, any plastic, will feed 'em for a while. They need minerals, of course, but not too terribly much."

"All three of those ships were infected with them. As long as they have light for energy—especially UV, but visible light will do—they can get along fine. And in an atmosphere of nitrogen and oxygen, they're like a pack of wolves in a sheepcote. They're nitrogen fixers with a vengeance. They were converting the atmosphere of the ships into N_2O , and other oxides of nitrogen. If they have a little water vapor to work with, they can turn out nitric acid nicely, thank you."

"Fortunately, hard vacuum kills them. That's why the space-boats were decontaminated. That's why *we* were decontaminated eighty years ago, when we left the spaceboats behind and went across the surface of Phobos to our mother ship, just as you did."

CHANDRA found his voice. "How come none of the other expeditions found them, sir?"

"They might have, but they didn't know what to look for. They live off of the larger plants, evidently—that is, off of their dead remains. The ones in the Xanthus Desert are in spore form, blown there by the wind. They don't break out of the spores until the conditions are right—until there's food around. If there is food around, they take a more mobile form, and in that form sulfuric acid will kill them. None of the other expeditions landed on the Xanthus."

Arkwright suddenly said: "Good Lord!"

His crewmates stared at him, and the General said, "What's the matter?"

"Can you imagine what would happen if those damn things got loose on Earth?" There was more than a touch of horror in Arkwright's voice. "It'd end up like Mars—an atmosphere of N_2O , and seas of nitric acid! And there'd be no way to stop it!"

Chandra and Bjornsen looked stunned as the notion hit them.

But General Challenger shook his head. "Not a chance. That's one of the reasons that none of the cultures of the other expeditions showed any signs of life. They killed the organisms in trying to culture them."

"With what?"

"Water. Liquid water. Plain, common, ordinary H₂O. They can't handle it, except in vapor form, and then only if the percentage is about one one hundredth of that on Earth. That's why it never bothered a human being. As soon as one of the organisms touches your skin, the slight dampness kills it. Even in one of the infected spaceships, they could only live and propagate in the driest spots—inside the instrument panels, for instance, which are dehumidified to prevent excess electrical leakage, and where insulation was plentiful for food. They have to have *some* water, of course, but the pure stuff is deadly. It's like the hydrochloric acid that every normal human being has in his stomach—a little of the dilute stuff is necessary, but pure HCl will kill you."

"I just thought of something else," said Bjornsen with an odd calm. "We are going to be out of jobs."

"In a way, yes," General Challenger said thoughtfully. "But not permanently. Granted, special cultures of this bacteria in sealed chambers can be used to fix Earth's nitrogen. Earth won't

need to import fixed nitrogen anymore. But what about the Asteroid Belt? They're building factories out there now, and they'll be building more in the years to come. There won't be any free oxygen out there. They'll have to get it from the stony asteroids. The big steel companies will still need nitrogen—so will the synthetics manufacturers.

"No, gentlemen, you aren't out of jobs. You just won't have the long haul to Earth any more. I predict that the Jovian atmosphere mines will still be in operation, on an even bigger scale, when you kids are as old as I am."

"Well," said Arkwright, "I hope that I'm in as good a shape as you are when that time comes, sir."

General Challenger raised his eyebrows. "I hope I am, too. I have no intention of passing on while all this excitement is going on around me." He smiled. "I am very fond of this material universe. I like to watch it evolve as it moves through time. And since I can't take it with me, I ain't going."

THE END



JOHN WYNDHAM

By SAM MOSKOWITZ

THE entire world, except for a few fortunates, is blinded by a pyrotechnic display of green light in the sky—origin unknown. Millions of giant, walking plants—offshoot of some misguided experiment—move into cities to kill and eat the helpless masses. Seemingly grist for the mill of some early science fiction pulpster, *The Revolt of the Triffids* by John Wyndham was scarcely the stuff the mass readership of the Jan. 6, 1951 issue of *COLLIER'S* expected to find as a lead-off five-part novel, illustrated in full color.

This was the most sensational "slick" magazine breakthrough for science fiction since THE SATURDAY EVENING POST launched a Robert A. Heinlein series with *The Green Hills of Earth* in its Feb. 8, 1947 issue. The surprise was softened only by the fact that in the book, as well as the magazine world, science fiction was in the throes of an unprecedented boom.



Who was John Wyndham?

A quick check revealed that his work had appeared for the first time in the September, 1950 AMAZING STORIES, *The Eternal Eve*, a story of a Venusian maid so revolted by the notion of a female's dependence upon a male that she shot all of the opposite sex who came within rifle range of her cave hideout until the

"right" one happened along. From that point on the case was quickly cracked. Howard Browne, AMAZING STORIES' editor, admitted Fred Pohl was the agent. Pohl saw no reason to keep secret the fact that the author behind the nom de plume of John Wyndham was John Beynon Harris. However, this did not solve the mystery. It merely rephrased the question: Who in creation was John Beynon Harris? How did a man with such outstanding ability remain virtually unknown?

Born on July 10, 1903, in the village of Knowle, Warwickshire, England our mystery author was baptized John Wyndham Parkes Lucas Beynon Harris. His father, George Beynon Harris, was a barrister at law, and his mother, Gertrude Parkes was the daughter of a Birmingham ironmaster.

There was one other child in the family, a brother, Vivian, who arrived two and one half years later, so there was companionship and real friendship. Eventually, Vivian would attend The Royal Academy of Dramatic Art and tread the boards for a period. While there was no loneliness, in other respects John's early life was chronically unsettled.

His parents separated when he was eight. He saw his mother primarily during school holidays

and attended seven schools in all as she impulsively changed her places of residence. By the time he was 11, John learned that the easiest way to get along with other children, or other adults for that matter, was to pretend enthusiasm for majority interests.

OUT of school at 18, he was a farm pupil for a while, then thought he might follow his father's footsteps into law. An Oxford tutor was obtained to help him prime for entrance exams. These he failed because he spent too much time in the Science Museum adjoining Oxford.

A small allowance from his parents minimized the urgency of earning a livelihood, but he nevertheless attempted advertising. This helped develop some of his writing skills which he utilized to write occasional bits of fiction. Most were rejected, but a few minor pieces were taken and published by London newspapers.

The writing of weird fiction fascinated him and he tried a good many with singular lack of success. The turning point in his writing career came in 1929 when he happened to pick up a copy of AMAZING STORIES left in a London hotel lounge. He was fascinated by the believability of the stories and searched out others.

As a youngster he had read H. G. Wells "with devotion." At thirteen he had written a super-science masterpiece involving flying armored cars bringing down the Zeppelins that were bombing London in World War I by firing enormous fishhooks at them.

His first sale to a science fiction magazine was a "slogan." The February, 1930 AIR WONDER STORIES offered "One Hundred Dollars in Gold" to the reader who could come up with a catchy phrase that best typified its contents. The announcement that John Beynon Harris had won first prize with "Future Flying Fiction", as well as his letter explaining why he had selected the alliterative phrase, was published in the September, 1930 WONDER STORIES, but it was a Pyrrhic victory since AIR WONDER STORIES combined with WONDER STORIES after its May, 1930 issue, and the slogan was never used.

Greatly encouraged, nevertheless, Harris sat down to write for the science fiction magazines in earnest. The paradoxes evidenced by Wells' *Time Machine* had always fascinated him, so he wrote a story in which men of the distant future forcibly evacuate their ancestors from an earlier time period to secure a lusher planet for themselves. The working title of the story was

The Refugee. It was announced as *Two Worlds to Barter* and published as *Worlds to Barter* in the May, 1931 WONDER STORIES. It inspired considerable controversy as to its plausibility, spearheaded by a teen-age Henry Kuttner, who would eventually be guilty of many blatant, perforce ingenious, time travel paradoxes himself.

A series of remarkable stories from Harris, clearly 10 years ahead of their time, followed in quick succession. The first was *The Lost Machine* (AMAZING STORIES, April, 1932), concerning a Martian robot stranded on earth, who is so appalled by the hopelessly backward state of civilization that he commits suicide. This was clearly one of the earliest attempts at treating the robot sympathetically, and, in the process, offering social criticism.

The Venus Adventure (WONDER STORIES, May, 1932) was an interplanetary adventure that placed the stress on the sociological results of the psychological impact of an alien environment on diverse philosophical outlooks. *The Venus Adventure* was a brilliant early effort of the author, remarkable even by today's standards for both content and story.

Superlatives were definitely in order for *Exiles on Asperus*, Harris' next story, a novel in WONDER STORIES QUARTERLY,

Winter, 1933. For 1933, the story can honestly be termed *avant garde*. Earthmen discover members of their race who have been enslaved for several generations by aliens on whose world they have crash landed. They defeat the bat-like otherworlders, but find that those born in bondage are so conditioned to their masters by religious doctrine that they will fight to the death rather than be freed. The "liberators" from earth have no alternative but to leave them in slavery.

Openly in *Exiles on Asperus*, more subtly in certain other of his stories, Harris flays hypocrisy in religious teaching. Though his early work possesses the strong element of action preferred by the evolving science fiction magazines, they are, nevertheless, grimly serious social and religious satires and turn on philosophic and psychological pivots. Harris started at a level which most of his contemporaries would never attain, either in content or style.

NOT all of Harris' stories of the 1933 and 1934 period were winners. Many had been written as early as 1931, rejected and then accepted upon resubmission. One such story, *The Moon Devils* (WONDER STORIES, April, 1934) was originally prepared as a straight weird-horror

story, rejected by WEIRD TALES, and then redone as an interplanetary with a lunar locale. Somehow Harris never seemed to be able to make it as a weird story writer, one of his few stories of that type to be published, *The Cathedral Crypt* (MARVEL TALES, April, 1935), involving the sealing alive in mortar by six monks of the two witnesses to their similar entombment of a nun, appeared only because it was donated to the publication.

The best of his early time travel stories was *Wanderers of Time*, wherein four different groups of humans from progressively distant eras of our future assemble in a period when the ants are the supreme rulers of the earth's surface, commanding elaborate robots to enforce their domination. The concept that man would not continue to evolve and prevail was a shocker in its day.

The first phase of Harris' American writing career ended on a high note with *The Man From Beyond*, the cover story of the September, 1934 WONDER STORIES. In this story, centaur-like Venusians discover that a specimen they have found in a lost valley, and subsequently caged in a zoo, is actually an intelligent mammal from earth. The transition of this man's bitterness at the mercenary kinsmen who deliberately abandoned

him on an unexplored world, to grief when he learns that he has been in suspended animation for millions of years and that the earth is no more, is played out with skill and poignant delicacy.

Harris' departure from the American scene was brought about by his decision to test his ability at the novel length. Upon finishing a long effort under the working title of *Sub-Sahara*, he felt the theme was too elementary for the American market. It dealt with a future where the Sahara is being flooded by water pumped from the Mediterranean. A rocket plane with a man and a woman aboard suffers a power failure over the new project and is sucked into gigantic underground caverns by a whirlpool.

There, a semi-civilized pygmy race fights to seal off the waters that threaten them with extinction, while at the same time holding in bondage nearly 1500 surface men who have blundered into their realm through the years. In addition to high literary technical skills, a remarkable sense of pace and a storyteller's instinct was evident in Harris' narrative flow.

The novel was submitted to THE PASSING SHOW, a magazine which hoped to become the British equivalent of THE SATURDAY EVENING POST. It had already published *When Worlds Collide* by Edwin Balmer and Philip

Wylie, as well as *The Pirates of Venus* and *Lost on Venus* by Edgar Rice Burroughs. Harris' novel was just their cup of tea and they accepted it, changed the title to *The Secret People*, and ran it as a nine-part serial beginning in July, 1935, illustrated by an extraordinarily talented artist named Fortunino Matania. The London book publisher Newnes put the novel into hard covers the same year. The story was then serialized by THE TORONTO STAR WEEKLY.

BRITISH readers who had followed John Beynon Harris in the American magazines were puzzled by the by-line which read merely "John Beynon." When Harris had originally submitted stories to American magazines, he intended to use the name John Beynon, but the editors had run his last name. He had always felt that Harris was too common a name in Britain and that John Beynon would have a more literary ring.

Emboldened by his literary achievement, Harris broadened his endeavors and got Newnes to publish *Foul Play Suspected*, a detective novel, in 1935. He was to default on most of his later attempts at writing mysteries.

Then he set to work on an interplanetary epic, *Stowaway to Mars*, a penetrating philosophical documentary of a space race to

Mars, and probably the first important science fiction work to see the Russians as major contestants. Similar Martian robots to the one in *The Lost Machine* are encountered by the earthmen and they turn the earth ships back because of the danger of mutual bacterial contamination.

Stowaway to Mars was also serialized in *PASSING SHOW* beginning in May, 1936. Its popularity transcended *The Secret People* and it was immediately rushed into hard covers as *The Planet Plane* by Newnes, and a year later reprinted in a popular science weekly, *MODERN WONDER*, beginning in the issue of May 19, 1937 under the title of *The Space Machine*.

These achievements made Harris the toast of London's science fiction circles. In an interview in the January, 1937 issue of *SCIENTIFICKTION*, "The British Fantasy Review," Walter H. Gillings hailed "John Beynon (Harris) on his British triumph" and made the assessment that "judged from the standpoint of literary ability, Harris is probably the best of our modern science fiction authors."

When Gillings succeeded in convincing *World's Work* to issue a test science fiction magazine, *TALES OF WONDER*, in 1937, Harris contributed a humorous farce, *The Perfect Creature*, to the first issue. Far more sub-

stantial, however, was his sequel to *Stowaway to Mars* in 1938, for the second issue of *TALES OF WONDER*, titled *Sleepers of Mars*. The sequel offered details of the fate of the Russian expedition to Mars and may well have contributed substantially towards the establishment of *TALES OF WONDER*, for a regular quarterly schedule was thereafter announced.

This coup was destined to prove non-exclusive, for George Newnes Ltd., possibly encouraged by *TALES OF WONDER*'s acceptance, decided to experiment with a British science fiction magazine of its own, *FANTASY*. Edited by T. Stanhope Sprigg, the first issue was set down on the stands July 29, 1938. It contained Harris' *Beyond the Screen*, concerning the invention of an electronic screen that projects an attacking armada of 1200 Nazi and Fascist planes into the far future. Under the title of *Judson's Annihilator*, this story was reprinted in the October, 1939 *AMAZING STORIES*, and was the first appearance of the John Beynon pen name in the United States.

HITLER'S attack on Poland and the entry of England and France into the war put an end to the new magazine, *FANTASY*, after only three issues. Harris had a story under the

Beynon name in each of them, and a second effort, *Child of Power*, under the nom de plume of Wyndham Parkes in the third. That story, a smoothly done job concerning a child born with the ability to hear radio waves, even those from outer space, ended when a flash of lightning and a clap of thunder "blinded" his extra sense. "That's all," the youth had said, "that was the end of it."

So it was for Britain's bid to develop a science fiction market of its own. For all practical purposes it was also to prove the end of the growth of reputation for John Beynon Harris under his John Beynon pen name.

The excitement, the pressures, the uncertainties of war made writing difficult. Civil liberties taken for granted during peace time were restricted, and Harris, working in civil service in censorship from August, 1940 to November, 1943, found himself participating in their curtailment. Then, at the age of forty, he found himself a Corporal with The Royal Signal Corps, working as a cipher operator. He next was deposited on the beaches of Normandy. Many of his past science fiction stories had dealt with war: *The Third Vibrator*, *The Spheres of Hell*, *Beyond the Screen* and *Trojan Beam*, but all of them had been composed within the objective at-

mosphere of his study. This was the real thing.

"I had a constant feeling I was there by mistake," he recalls. "Possibly that was because I had spent much of my school-days expecting in due course to be in the Kaiser's war, though it ended when I was still too young. Nevertheless, I could not get rid of the feeling that that had been my war, and now I had somehow got into the wrong one. It produced odd moods of detached spectatorship, shot with flashes of *déjà-vu*. I took to writing sonnets because you can't carry a lot of paper on a campaign, and they are more interesting than crosswords. When things grew more static, I tried my hand at translating a French play or two, but lost the translations somewhere in Germany."

Through the entire war period only one story appeared, *Phony Meteor* in AMAZING STORIES for March, 1941, telling of a tiny spaceship mistaken first for a Nazi secret weapon and then for a meteor. All its passengers, minute buglike creatures sent to establish a colony on earth, are destroyed by insect spray without the slightest realization of what they really are.

During his army sojourn, Harris came to the decision that he would stress fantasy, not science fiction, when he resumed writing, because of the wider lati-

tude it permitted. Upon his release in 1946, he gave himself two years to make good, but as the allotted time passed and the rejections mounted uninterruptedly, he faced an agonizing reappraisal. His accumulated savings were virtually exhausted and he either must write something that people would buy or try to get a post in civil service again.

SCIENCE fiction had changed greatly since John Beynon Harris, reborn John Beynon, was first choice for England's leading science fiction writer. A more sophisticated brand of fiction, much more comfortable in the depths of the galaxy than in the solar system or on the planet Earth, prevailed. In this new fiction, action was often only implied and the plot could turn on a psychological quirk, Freudian slip or philosophical misinterpretation. The circumstances leading up to the story were frequently taken for granted, resulting in stylized backgrounds. Explanations, logical or otherwise, of the wonders that abounded, were lacking.

In a good many respects it was superior to the type of science fiction most popular before World War II, though in the process of refinement some of the substance had been lost. Harris wasn't sure he could

write it, and wasn't sure he wanted to write it, but it began to look like he would have to try. The last science fiction story he had seen published was a novella, *The Living Lies*, a rather obvious allegory of color and racism on the planet Venus, in the second issue of NEW WORLDS in 1946. To write himself back into shape would take time and money.

Then, the miracle. One of his near-to-life fantasies, *Jizzle*, a short story of an artistically vindictive female monkey, sold to COLLIER'S in the United States and was published in the January 8, 1949 issue under the John Beynon byline. This was a second chance to make it. First he was to try his neglected skills as a science fiction writer on a short length. The result was *Adaptation* (ASTOUNDING SCIENCE-FICTION, July, 1949), a delicately wrought, superbly handled, story about a baby girl who is scientifically adapted to live on another world. No question now existed of Harris' ability to compete with the best living writers of modern science fiction.

It was in the novel that Harris had made his greatest success prior to World War II, so now he proposed to try a new one. He joined two ideas in his files, one on the theme of universal blindness and the other on a plant

menace. The latter was illuminated in his mind when he was startled one night by the manner in which the wind made a sapling in a hedge appear to be making jabs at him. Other stories that may well have influenced his handling of the two major plot situations in *The Day of the Triffids* (as it was retitled for book publication) were *Seeds from Space* by Laurence Manning (WONDER STORIES, June, 1935) with its intelligent plants grown from unknown spores, and Edgar Wallace's short *The Black Grippe* from March, 1920 STRAND MAGAZINE, where the entire world is stricken blind for six days.

On the surface, the ideas were old ones and the approach "pulpish." In execution, the novel exhibited stylistic strengths (which were instantly recognized by the reviewers) and a Gibraltar-like foundation of scientific logic (that was not). This last, to a degree, was developed by slanting to Hugo Gernsback's insistence on detailed explanation and background in WONDER STORIES. The result was an ability to convincingly attain the "willing suspension of disbelief" essential to gain acceptance from COLLIER'S mass audience.

Harris' ideas for *The Day of the Triffids* and the many works that followed were adapted from many sources—since he was a

regular reader and fan of science fiction and thoroughly familiar with its various gambits. His rhetoric, on the other hand, appears to have been persuasively influenced by only one major writer, H. G. Wells. Great ingenuity at approaching an old idea from a fresh slant was characteristically his own contribution.

Almost instantly following the appearance of *The Revolt of the Triffids* in COLLIER'S, a spate of short stories by John Wyndham began to appear in leading U.S. science fiction magazines. There was little question that Harris could now sell anything he wrote. However, he calculatedly decided to stick with the novel and the world menace theme. *The Kraken Wakes* appeared in boards in England over the Michael Joseph imprint, and in the United States in paperback as *Out of the Deeps*. With echoes of Karel Capek's *War With the Newts*, it delineated in fascinating detail the attempts of an alien race, who have settled in our ocean depths, to destroy humanity. As in *The Day of the Triffids*, Harris has no final answers, he merely acts as an overly literary reporter. His penchant for walking away from a resolution of the problems he promulgates has been criticized, but his efforts succeed in spite of this tendency.

The Kraken Wakes quickly multiplied editions in England, and was followed by *The Crystals* from the same publisher (issued in the United States as *Re-Birth*). Here, a post-war remnant of civilization ostracizes and attempts to destroy any creatures, plants or humans, showing variance from the norm. A six-toed girl thereby finds herself in deadly peril until she finds she is one of a new telepathic race.

During the years that Harris did not produce a new novel, the book publishers put together collections of his shorts (*Jizzle*, 1954, *The Seeds of Time*, 1956) which, astonishingly, seemed to sell nearly as well as his novels.

Harris had written a dozen or more stories with a time travel theme. It seemed to be his private form of fun and relaxation, and the best of them, such as *Pawley's Peepholes* (SCIENCE-FANTASY, Winter, 1951), where prying intangible tourist busses from the future are sent scuttling back where they belong by the employment of vulgarity, appeared to have nothing else in mind but light entertainment.

Not so with the time travel story *Consider Her Ways*. A new novelet, especially written for a Ballantine collection, *Sometime, Never in 1956*, it had special impact. Through the use of drugs, a woman doctor of our time

turns up in the future as an obese "mother" in a world without men, where selected females produce children on the Queen Bee principle. The high point of the story is the dialogue debating whether the world is better off with or without men, which introduces a highly original and disturbing point of view on the subject.

BECAUSE of the international success of *The Day of the Triffids*, the feeling was prevalent that Harris had made his mark with that novel and everything that followed was to be anti-climactic. In fact, it was felt that whatever doors were to open in the future could only be accomplished by utilizing the phrase, "by the author of . . ."

That was when Harris planted another time-bomb. A new novel of his, *The Midwich Cuckoos*, had been shown in manuscript to Metro-Goldwyn-Mayer and purchased for what would eventually evolve into the motion picture *Village of the Damned* (1960).

A flying saucer lands on the green of the British town of Midwich and 24 hours are blotted from the memories of everyone in the community. The following day every woman in the town is found to be pregnant. When the children are born they are distinguished by great gold-

en eyes. By the time they are nine they have developed a community mind and a community will—special powers which they admit will ultimately doom mankind. Their disposal poses a seemingly insoluble technical as well as moral problem until they are destroyed through their trust in the man who has educated them.

Wyndham, for this story, re-worked the plot of *The Crystals*, directing the sympathy of the reader away from the children towards humanity. He has done this by making the method of their conception illegitimate and non-human, and their actions so cold-bloodedly extreme as to divorce them from reader empathy. Both the devices of the amoral superior child and the desirability of the community mind seem to have been adapted from Olaf Stapledon.

The motion picture proved to be an extraordinarily effective one. But it resulted in a much inferior sequel, *Children of the Damned*, which gives no screen credit to Harris. It may well be that in these sinister children a new menace has been created which will evolve into a non-stop series similar to those following the releases of *Frankenstein* and *Dracula*.

Destined to be as successful as *Village of the Damned* as a film is *Day of the Triffids*, released

by Allied Artists in 1963. A reasonably faithful approximation of the novel, it is fulfilling its destiny by frightening audiences around the world.

An abysmal failure at writing the old-fashioned weird and horror story with the standard stock devices, Harris' fiction and motion picture adaptations are being hailed as masterpieces of horror. "Nightmarish" is the adjective most frequently quoted from reviews of his work. If what Harris really wanted was to achieve facility at "shaking up" his reader, he has had his wish. The public, following his inexorably logical scientific validation for the products of his "alarming imagination" are gratifyingly chilled by his attempts.

The realization that he was becoming typed as a horror writer may well have caused Harris to write four connected interplanetary novelets, all appearing in *NEW WORLDS* and *Fantastic Stories* during 1958 and 1959. The novelets deal with the contributions of four generations of the Troon family in the building of a space station and in the first explorations of the moon, Mars and Venus. Atomic war comes, new powers emerge, but progress continues. Published in book form as *The Outward Urge* by Michael Joseph in 1959, the book was represented

as a collaboration of John Wyndham and Lucas Parkes. The reason for the collaboration was to "head off John Wyndham's propensity for producing such phenomena as Triffids, Krakens, or golden-eyed children, and keeping him to the more practical problems of tomorrow." Since "Lucas Parkes" are but two of Harris' generous supply of middle names, this may well be one of the few official collaborations of an author with himself.

THE next fictional problem Harris occupied himself with was that of how to go about informing the public of a means of doubling or even tripling life without creating a world catastrophe. This was published as *Trouble With Lichen* by Michael Joseph in 1960. In the novel, the

public would be offered a second full start. Harris found he had to cope with the problem himself. In July, 1963, at the age of 60, he helped Grace Isabel Wilson "celebrate her retirement from teaching English to the young" by marrying for the first time.

Almost a decade before its popularization, John Beynon Harris had toyed precociously with the plot accouterments of modern science fiction. John Wyndham brought to life in an era when new writers were hypnotized by the "mainstream" elements of the "new" science fiction, raked some of the hoariest plot chestnuts from the fire and with quiet artistry invested them with the sweetness of originality.

THE END



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condition of survival

By BARRY P. MILLER

Illustrated by SCHELLING

Love is many things. In the small, tight world of the spaceship, it is at once a threat, a weapon and an anodyne. On the broad new world of a strange sun, it can be a danger—or a redemption. Only Nate Hillier, who Transferred to the body of an Elf, knew.

FOR a Greenwich Month, the BuGalEx ship, *Wotan's Beard*, had maintained an observation orbit three hundred kilometers above the fourth

planet of a G₈ class sun near the base of the galactic limb of which Sol was a part. The world had one great moon. Its gravity representing unity. What ap-

peared to be the semi-ruins of a middle-Neolithic type civilization had been spotted on the largest land-mass. Roboscouts equipped with bioanalyzers had coursed across jungles and deserts and grasslands, gathering samples of soil and vegetation. No seriously hostile allergens or microorganisms had been detected; BioSec announced there was a high probability the world's ecology would be hospitable to organisms with Terra-type protein structures. The *Wotan's Beard* then eased her seven-hundred-meter bulk through kilometers of atmosphere to make planetfall ten kilometers from the largest grouping of semiruins that had been detected from the observation orbit.

The different Sections sent out data-gathering expeditions. MeteoroSec established climatological stations from the equator to the poles. GeoSec and PaleontoSec joined forces. BioSec began a tentative classification of the flora and fauna. XenoSec went over to investigate the ruins and found the Elves.

The excitement of the discovery was tremendous. Never had Man encountered more humanoid beings in the course of his galactic journeyings. Linguist Betty Lee, who had been among the first to see them, had named them Elves quite aptly. They

rarely topped a meter and a quarter in height, and were slender of limb, triangular of face, full of an elusive and mercurial beauty which had wrung a gasp from Betty: "Oh, wonderful!"

Transferman Nathan Hillier was technically an agnostic. But as soon as the news of the discovery of the Elves reached him, his silent and intense prayer was: *Please let there be a job for me to perform.*

AS Betty Lee entered the General Lounge of the *Wotan's Beard*, for once the wonder of the tall wide walls that were alive with subtle changing colors and patterns failed to move her. The weight of six weeks of failure on the part of XenoSec to make any appreciable headway in its attempts to achieve communication with the Elves was so great that she did not even notice that the walls were featuring neo-Dali art-forms today, her favorite. Also, she had been troubled by a premonition of unpleasantness ever since she had come awake that shipboard "morning". She had hoped Nate might be able to help her dispel her mood, but he was closeted away with his Transference equipment. She had tried to shake it off by intense concentration upon her work, but the Elves with whom she was attempting to communicate only

seemed more remote and incomprehensible than ever. Linguist Yakamura had finally taken pity upon her and suggested that she take the rest of the day off; now she was hoping that a few drinks, a good hot shower, a nap and then an evening with Nate would restore her generally bright spirits.

She found herself a solitary table in the least populated section of the lounge. She dialed herself her favorite New Olympian brandy on the selector. Nate came from New Olympia; he had cultivated a taste in her for the liquors of his homeworld. The top of the table slid quietly open and as quietly shut, and her drink was before her. She sipped at it, trying to lose herself in the computer-arranged background music that adapted itself to the flowing designs on the walls.

She had almost succeeded in relaxing when something nagged at the edges of her vision. She scanned the crowd toward the center of the lounge; her attention fixed suddenly upon Sven Mendoza's huge dark frame. He had not seen her yet, but somehow she knew he was looking for her. She tried to sit as quiet and unnoticeable as possible. A quick despair went through her as she thought that the unpleasantness which had troubled her all day was about to acquire concrete form.

Her efforts to make herself unnoticeable were in vain. Her hair shone in the dimness as a helm of gold. Sven was now moving toward her. There was something suggestive of irritation in the way he swivelled his massive frame from side to side as he edged among the tables. When he was close enough for her to distinguish his features in the subdued light, she saw that the irritation was a living presence in his eyes. He snatched a chair away from a nearby table and sat across from her.

"It's been a long time, Bee," he said.

Betty, knowing him to be temperamental almost to the point of being disqualified for shipboard duty, listened for the tremor in his deep carrying tones that she knew from past experience was forewarning of another scene with him. She failed to hear it but did not feel relieved; there was polite ice in her voice when she replied:

"I've had a bad day, Sven. I feel neither convivial nor conversational."

He ignored her hint and dialed himself a drink. He took a deep swallow from it when it arrived, then scowled at her. "I suppose you're still with Hillier?"

Her golden hair tossed about her shoulders as she nodded.

"The Transferman," he snorted. "The ship's oddball. We were

making out so well before he shipped aboard a year ago. I thought I pleased you, Bee. Just what kind of technique does he have?"

"How often must I tell you that this has nothing to do with technique, Sven? Now will you please leave me alone?"

HE seemed not to hear her. "I have something new worked out. I found a microspool with a complete set of Hideko St. Martin's conversion tables for adapting aural sensation to tactile sensation. I've been applying them to the Fifth Symphony of an ancient classicist called Beethoven. It would be one long series of increasing crescendoes through the preliminaries to the consummation. It's the best blend of the esthetic with the sensual I've come up with so far. I'd like to try it out with you first, Bee."

"Please leave, Sven."

He looked at her as if she had suddenly come into a new focus. The tremor that Betty knew and detested was beginning to spin its taut thread through his voice. "No Transferman can possibly be that good."

She felt her self-control to be slipping. Why was it always so difficult with Sven? "I tried to tell you," she snapped. "My relationship with Nate isn't based on sheer sensuality. What I see in

him has nothing to do with any 'technique' of his. I feel I can't talk sense to you. *Please go!*" Her voice had grown almost shrill.

Shadows seemed to find a home on Sven's olive complexion; he rose to his feet. "I suppose," he said with deadly sarcasm, "that next thing you'll be announcing him as your Exclusive?"

She had no command over her speech. "Yes! If he'll have me."

Lightnings rioted in the darkness of Sven's eyes. His voice would have been an accompanying thunder, but the effect was spoiled by the stridency of the tremor in it. "So you'll have the best excuse possible for turning me off. You'll be sorry!" The tremor diminished and was replaced by a harshness. "You keep on forgetting he's the Transferman. Think a little! How successful has XenoSec been so far in communicating with the Elves? Your precious Nate may find out he has to earn his keep at last!"

His concluding words gave abrupt form to the fear that had haunted her all day. "Stop it!" she cried.

"Can't you face it?" he asked in low grating tones. "You knew before you ever met him why every BuGalEx ship is required by L.H.S. law to carry a Transferman. Were you kidding your-

self by telling yourself the odds were in favor of Nate's not having to fulfill his special capacity? If you're so hung up on him, where will it leave you if he goes the way Vlasov or Markham went?"

She came to her feet so swiftly she upset her chair. She leaned across the table and slapped him. "You're being deliberately cruel!"

He caught her wrist in a grip so strong that she winced. "Cruel? I'm trying to bring you to your senses! A Transferman is the worst possible choice for an Exclusive, and I'm not speaking about technique either. When they have to earn their keep, they face greater hazard than any other expedition member is required to face."

"But they don't *have* to. . . ."

"Do they ever refuse? I've never met one yet that didn't want to play the hero." He let go of her and glanced at his wrist chrono. Looking back to her, he saw that her eyes were abnormally brilliant with anxiety. He said, "I'm sorry I had to put it so harshly."

"I don't really think you are."

"It's true you disappointed me and I've been indulging in a little overt hostility. That does not invalidate what I've been saying." His voice became almost gentle. "You'll hear this news soon enough, Bee. I'm not

telling it to you as a parting dig. Section Coordinator Ling notified me half an hour ago that Δ e was calling the Intersectoral Council together at 0400 hours to vote on the necessity of Transference."

"Oh!" No man could have been blind to the momentary terror that gleamed in her eyes. "Sven, you're the head of PaleontoSec. Do you have a vote?"

"Yes."

"Vote no! Oh, Sven, vote no!"

He looked down at her. The hurt of her rejection of him was still a bitterness within. "I can't promise anything," he said carefully.

She turned away from him. "Go now. Please."

There was nothing else he could do but go.

NATHAN Hillier was working his way through a difficult section of a microspool treatise outlining Chandrasakwar's latest researches into the union of cybernetics and psionics by means of pseudobiological components when the buzzer over his desk sounded. Such was his absorption that it sounded twice more before he called out, "Come in."

He thought his compartment brightened perceptibly as Betty stepped within. She was perhaps the most striking Eurasian he had ever known, with hair of a

shade of gold he had seen only once before in a summer dawn on New Olympia forming an exquisite frame for the subtly Oriental cast of her features. The months of intimacy that lay behind them had not yet tarnished for him the sheer physical allure of her. He hoped he seemed as perpetually fresh to her as she to him.

"I'm worried, Nate," she said.

Chandrasakwar's intricacies lingering on in his thoughts, combined with the immediate awareness of her beauty, left room for little else. "Eh?" he murmured.

She smiled a small wry smile and came over to him. She put her hands on his shoulders and bent forward in order to read the title off the microspool on the desk before him; he was conscious of her touch and the ghosts of gardenias that seemed always to surround her. She read aloud, "*Effects of Induced Magnetostriiction on Fieldsensitive Pseudobiological Computer Components.*" Her cobalt eyes widened in mock awe. "Many pardons, Sire! I didn't realize you were engaged in Cogitations of Celestial Import!"

He grinned. "My seeming abstraction is actually that state of speechlessness in which the contemplation of your pulchritude inevitably leaves me." Then he became serious, his eyes chang-

ing from overcast-sky grey to a sharper steel-grey. "Did you say you were worried?"

She gave his shoulders a small affirmative squeeze. "I had a nasty scene with Sven today. He told me Section Coordinator Ling is calling the Intersectional Council together for a vote on the necessity of Transference." Her voice broke a little as she spoke the last word.

"It's true," Hillier said. "Ling notified me early this morning. That's why I was checking over my equipment."

Her fingers dug convulsively into his shoulders. He knew her well enough to know such a reaction was atypical. He said, softly, "Bee?"

"Yes, Nate?"

"You're genuinely worried?"

"You know I am."

"It's because I'm the Transferman?"

"What else?"

He swivelled his seat around so he could face her. "Just what was Sven telling you?"

"He was reminding me of what happened to Vlasov and Markham."

Hillier shook his head in disgust. "That was nearly a century ago. The Transference equipment available to them compares to mine as the *Wotan's Beard* compares to those ancient clumsy things in which men ultimately reached their Moon.

The difference is as great as the difference between mass-ejection propulsion and the Dierksen drive."

"Can you promise me that it's absolutely safe?"

"It requires omnipotence to make an absolute promise of any kind. But if it makes you feel any better, I can tell you that only three additional Transference contacts have been necessary since the days of the Dolphinites and the Heavyworlders. Not a single man was lost. But, to be strictly honest, I must admit that Stevens had a brief brush with insanity during his initial attempt at contacting a Skyrover."

She leaned forward tensely. "That's what upsets me! All his talk of the possibility of insanity! And it can be worse. Isn't it true that Vlasov died in Transference with a Heavyworlder?"

Something in her voice brought Hillier to his feet. He took her firm rounded chin and tilted her head until she was looking up at him. He asked, "What do you really know about Transference?"

The blueness and the clarity of her eyes were darkened somewhat by her gravity as she replied, "Linguistics is my specialty, not Transference. I know so little about it, and I've heard so many rumors. You never talk

about it. I don't know what to think, and I find I'm very much afraid for you."

He glanced at the wall chrono. "It's an hour and a half before the Council convenes. Shall I tell you about Transference?"

He felt the pressure of her chin as she nodded. "I hope it will make me less fearful."

He turned to his bunk and drew her down beside him. He told her about Transference.

[N the one and a half centuries Man had ranged through his Galaxy, he had encountered just under two dozen sentient races. Some were humanoid, some non-humanoid; some were his technological inferiors, some his technological equals, and one his technological superior. Communication with them had been imperative, and in the majority of instances communication had presented no serious difficulties. Both man and alien had been eager for mutual understanding, and with the help of swiftly developing xenosemantic techniques, sophisticated computers, and much trial and error, communication had been achieved. All had agreed profoundly upon one thing: so limitless were the frontiers of the universe that there was no necessity for rivalry.

But no flash of intuition, no marvel of cybernetics, had been

able to establish communication with two of the races that had been encountered. The difficulty lay in the immense difference between the sensory equipment of man and alien. Beings whose "vision" started in the lower regions of the x-ray spectrum, whose "hearing" functioned apparently by the detection of "ripples" set up in a gravitic field by the motion of mass through it, had no common basis of sensory experience that could be shared with Man. Without such a basis, there existed no common ground on which a framework of communication might be built. But Man had to ask himself, *What do these beings expect of me? Friendship, rivalry, or neutrality?* And Man had to assume they asked similar questions of themselves concerning him.

Transfermen had been the solution.

The slowly developing science of psionics made them possible. Elaborate machines had been fashioned which could transfer a consciousness from its own body into another. By testing the machines with aliens with whom communication had already been achieved, it was established that it was possible for a human consciousness to be transferred into an alien being. The machines had been brought to the worlds where communication had not

been achieved. Unexpected perils were encountered.

In the initial contact, the alien could have no idea what the man was attempting to do. The mechanics of its psyche might enable it to turn upon the intruding consciousness and destroy it. This was what had happened to Vlasov in the first attempt at contacting the Heavyworlders.

Or the alien might have so foreign an intellect that a too intimate contact with it could mean the Transferman's psychic ruin. This was what had befallen Markham upon his Transference into a Dolphinite; it was later learned they conceptualized in terms of five dimensions.

SIX Transfermen had been lost before communication was achieved with the Dolphinites and the Heavyworlders, but the reassurance that had been the prize of success was so great that the sacrifice was felt to be worthwhile: the Dolphinites had chosen friendship; the Heavyworlders asked for neutrality. The Congress of the League of Humanized Stars then made it mandatory that a Transferman be a part of the complement of every BuGalEx ship on an exploratory mission. If a new alien race was encountered and all other means of communication failed, he would have a job to perform.

Transference equipment had been refined over the years to the point where most of the risk was taken out of the Transferman's job; such equipment today incorporated safety features that automatically recalled the Transferman's consciousness at the first indication of danger. This made his position no less arduous: each Transferman had to be a multiple specialist. He had to be thoroughly grounded in psychology, in physics, in chemistry and electronics; he had to be capable of analyzing the nature of the sensory organs of the alien into which he was transferred; he had to be able to infer what type of stimuli that men could produce would be best suited to those organs; he had to make the alien's mental symbology comprehensible to himself in terms of stimuli. Lastly, having achieved personal communication with the alien, he had to work out codes that would be intelligible both to his fellowmen and the alien. Few other positions demanded so much of a man. Transferman candidates took batteries of aptitude tests at approximately twelve years of age; the few who passed were taken to be trained at the most exclusive of all human institutions of learning: the BuGalEx Training Headquarters, Terra, System Sol. Their training lasted fifteen

years. Even if their homeworld was Terra itself, they were fortunate if they could see their families for a single month out of each of those years. They were still more fortunate if they had opportunity to make use of their special talents once in a lifetime. Nine hundred ninety-nine out of a thousand Transfermen sat out tour after tour of duty, three years apiece, without hearing so much as a rumor that they might have to fulfil their special capacity. They made use of their time by helping to correlate and integrate the masses of information gathered by the ten different Sections of each BuGalEx ship, and by trying to intuit new concepts from those seas of data. Every one of them nursed a deep and secret, almost desperate dream that he would be the next one to break down the barriers between men and a new race.

ALL that training," said Hiltier, "comes to mean something." His intentness gave his eyes the greyness of steel. "It causes a man to feel as if he were an exquisitely forged tool. The thought that he might never be used for the purpose for which he was forged inspires nightmares of a wasted life. Those of us who came to BuGal-Ex Training HQ from outside System Sol, like myself, feel this

strongly. We left our families when we were mere boys and it was fifteen years before we could see them again. With all its compensations, HQ was never the equivalent of *home*. We want to feel that all our effort and sacrifice has been for a genuine purpose. Transference is the fulfillment that few of us ever realize."

Betty was listening raptly; this was a Nate who had never quite come into being in her presence before, a Nate that no amount of physical intimacy could coax out of hiding. It was the Nate in which she was really interested, and which she had been trying to draw out ever since her first encounter with him. That had been in the General Lounge when the *Wotan's Beard* was two weeks outbound from System Pollux, having stopped over briefly at New Olympia to pick up Hillier, who upon the completion of his training had spent the customary Greenwich Year with his family before going out on his first tour of duty. There had been something small-boyish and lost about him, qualities that contrasted strangely with the iron determination and will-to-work that were so much a part of him and which must have made it possible for him to last out his training at HQ. His concealed boyishness and the contradic-

tion it represented had so piqued her curiosity that she became determined to know him better; their affair had grown out of her determination.

They looked at each other in silence for a while, then Betty asked, "Nate, what do you think the Council's decision will be?"

"Probably in favor of Transference," he said. He seemed to see beyond her to a dream trembling on the brink of reality. "Consider: last week BioSec rated this world Prime. It's rarer than a peppermint-striped ring nebula. It's almost completely free of the inconveniences associated with worlds that approximate Standard: virulent micro-organisms, violent allergens, savage and sometimes near-indestructible indigenous life forms. If hazards are present, they're so subtle that they'll only reveal themselves through the precipitation of tragedy—and then they can be coped with. As representatives of the League of Humanized Stars, the sole legal point we have to consider before conferring provisional Colonizable status upon this world is the nature of the Elves."

Betty nodded. "Article Four of the Constitution of the League of Humanized Stars. 'No demonstrably progressive sentient race shall be interfered with against its will. All planets

with progressive sentient races are closed to human colonization."

"Exactly. And only by communicating with it can you evaluate the progress of a race. How much success has XenoSec had with the Elves?"

"Not much," Betty admitted. "But I've been trying a new approach. It looks very promising."

"Let's say your approach is valid and workable. How long will it be before we can evaluate the Elves?"

"Years, most likely." Her voice was subdued.

"Can we afford to wait years?"

"Not us, perhaps. But surely, other expeditions . . ."

"Bee! At nine and a half billion credits per expedition? When this expedition has a Transferman aboard who can deliver a swift and economical solution to the problem? Remember that, while BuGalEx has one of the largest budgets of any department of the L.H.S., it's not infinite."

IMPLICIT tears made her voice tremble a little. "But is it really necessary for you to go through with Transference? I know that you must know that PaleontoSec has uncovered evidence that the Elves have remained, technologically, at the

middle-Neolithic level for approximately three million Greenwich Years. Isn't this an indication of racial stasis, or even devolution? Can't we judge them by it?"

"And overlook the possibility that they've achieved some form of spiritual evolution that bypasses the need for a complex technology? I'll admit it isn't too likely, but progress comes in many forms. Would you want to risk the ruin of a perhaps very promising culture by judging them on such *a priori* grounds as you've expressed?"

She had been biting her lip as he spoke; now she shook her head vehemently. "No! No! But something about the thought of you undergoing Transference frightens me. Sven hasn't been doing my nerves any good, either. Every time we meet, we seem to flare up into a scene."

He put his hand on hers. "Does he want you back?"

"It's not a question of wanting me back. He never wanted me that way. He just plain wants me. He was telling me about an adaption of Beethoven to tactile stimuli that he wanted to try out with me."

Hillier kept both his face and voice carefully free of expression as he said, "It seems he would quiet down if you obliged him. Why don't you?"

"I simply don't want to. I

...” She searched his face and saw that the intuition born of fifteen years of training was leading him inexorably toward the subtle dishonesty she had been about to commit. “... I feel guilty as hell,” she finished.

He nodded acknowledgement and approval of the truth she had just spoken. His silence was an invitation for her to tell him more.

“I met him on Terra when we were signing up for duty aboard the *Wotan's Beard*. We became lovers during the six weeks it took to get to New Olympia. I thought we might become more than lovers.”

“This makes you feel guilty?”

“I asked him if he'd become my Exclusive.”

His hand trembled a little on hers. “What did he say?”

“He laughed at me.”

“What happened today?”

She could not meet his eyes. “He taunted me by asking me if I'd make you my Exclusive. I said yes, if you'd have me.”

His voice was taut. “Did you mean that?”

Her answer was almost a whisper. “Yes.”

Something about his sigh caused her to look at him in faint alarm. She had never seen him appear so weary. Now it was he who would not meet her gaze. He said, “You grew up on Terra, Bee. There is so much

about you that I don't understand . . .”

He shook his head as if trying to clear it.

“What they say about Transfermen is true. We have no technique worth mentioning. Our training is so intensive that we never have the leisure to cultivate the finer social graces, let alone the sophistication in loving that every third-class Terran citizen comes by naturally. Do you know how Sven perceives your actions?”

“I think I know what you'll say.”

“I'll say it anyway. It seems to him as if you're announcing that I, supposedly the worst of all possible lovers, am better than he is. Terra is his world, and free love is the norm, and people are proud of their art. You can imagine the blow to his pride you must have dealt him.”

“But it's so foolish! It isn't true!”

“What isn't true?”

“That he's an inferior lover. He's the best I've ever had.” She was not blind to how Hiller's eyes briefly filled with shadows. “What I've been trying to tell him all this time is that my feeling for you is no reflection on his technique.”

He was silent for a while and she had the impression that he was searching very carefully for the proper words. The steel was

going out of his eyes and was being replaced by a troubled grey. At last he said, "I was raised on New Olympia, Bee. Does that mean anything to you?"

She was going to say *No, Nate*, and had gotten as far as "No. . . ." when the visiphone on his desk buzzed. He gave her hand a quick small squeeze that meant *excuse me*, and went over to it. The faceplate flashed with colored patterns that steadied into a three-dimensional image of Section Coordinator Ling; his leathery old slant-eyed face seemed to be the home of countless subtleties. All of a sudden, Betty's heart was hammering. She came to Hillier's side.

Ling had been greeting Hillier. His gaze from the faceplate turned to Betty. "Greetings, Linguist Lee. Linguist Yakamura suggested that I might find you with Transferman Hillier."

"Greetings, Coordinator Ling. What do you want of me?"

"Linguist Yakamura was telling me of the work you have been doing with the Elves. I am impressed. I want you to represent XenoSec along with Linguist Yakamura at the conference I am calling to determine the necessity of Transference."

It seemed as if her heart must batter its way out of her chest. But she maintained her composure as she replied, "I am hon-

ored. Thank you, Coordinator Ling."

As Ling's image faded from the faceplate, Betty turned to Hillier. "Oh, Nate! Nate!"

He gathered her into his arms. "I'm excited too, Bee. This means so much to me I hardly dare think about it. You understand?"

"I'd better review my notes before the conference," she said. There was a tremor in her lips as she kissed him. Her eyes were wide and serious as they sought out his. "You were telling me something important before Ling called. Don't forget."

"I won't."

HILLIER let his gaze travel slowly around the huge oval table in the conference hall. Section Coordinator Ling was presiding at the end opposite him, and was calling the meeting to order. To Ling's right were Jamieson of BioSec, Hauptmann of MeteoroSec, and Yakamura and Betty of XenoSec. To Ling's left were Singh of AstroSec, Van Amerongen of OceanoSec, Irgens of PsychoSec, and Sven of PaleontoSec. Schneider of Cartography and Berkowitz of Navigation were absent, on the excuse that their fields had little to do with a decision on the feasibility of Transference. Vorob'yev of GeoSec had called to say he would be late.

For half an hour, the meeting was a resumé of what was generally known about the Elves' world. Then Ling started asking pertinent questions. "Linguist Yakamura," he said, "could you please outline to us the nature of the difficulties your Section is having in its efforts to communicate with the Elves?"

Yakamura gave a small courteous nod. He spoke with a soft clear voice, "We observed that the Elves produced modulated vocal noises when in each others' company. Taking into consideration their extremely humanoid nature and checking our oscilloscopes for potentially meaningful repetitions of patterns, we concluded that the Elves did in fact possess a spoken language. Our difficulties began as soon as we attempted to analyze it. In the first place, there seemed to be two languages instead of one, both languages being present in every Elf we observed. One of these languages—although it can hardly be graced with the designation, 'language'—appears to bear some statistical correspondence with the sound patterns we expect from human infants when they are undergoing the later periods of the 'babbling' stage. There are few meaningful sounds, and the meaningful sounds we have so far identified always stand for some basic

emotion such as pain or fear or rage. There seem to be no referents for 'self'. If this is in fact a language, it is approximately as sophisticated as the gruntings and barks of chimpanzees.

"The other language also can hardly be graced with the designation, 'language', although it is far more complicated than the 'babbling'. Its main characteristic is its ambiguity. Statistical analysis indicates a pattern to this ambiguity, but we have not found the key to the pattern yet. An application of Nagel's xenolinguistic theories to it brings forth results that are both perplexing and intriguing. It seems as if this 'language' is what you might call a vehicle for soliloquy—it seems to be designed to facilitate the communication of one entity with itself."

"Thank you, Linguist Yakamura. As I recall, you spoke highly of Linguist Lee's work with the Elves." Ling's eyes met Betty's. "Have you anything to contribute, Linguist Lee?"

"I think so. But it's hard to decide how relevant it is to the purposes of this conference."

"Relevance is frequently determined through hindsight, Linguist Lee. We will be glad to hear what you have to say."

I wondered," Betty began, "if I could teach Intergalactica to the Elves. I didn't think it was a

very great possibility, but did think it would be worth investigating. I chose a big Elf for my subject because his size and a small scar on his chin made him easy to recognize. I determined first that he could understand simple gestures like 'come here'." She made beckoning motions with her hands. "Then I began pointing at things, and soon he was imitating me. I pointed to a stone, and when he pointed too, I said 'stone'. I had to repeat the routine about a dozen times before he seemed to understand; he pointed to the stone and piped, 'stonn.' I clapped my hands with glee. He clapped too, making noises that alternated between titters and laughter. I had to perform the point - and - pronounce routine only three times before he was pointing at a tree and piping, 'tee!' Just one gesture and one word were all he needed to know that grass was 'gass'. I was laughing because I was so happy at the rapidity of his learning, and he was laughing with me.

"A few other Elves approached us and seemed to want to join the lesson. They were all communicating in what Yakkamura has described as the 'soliloquy' speech. They learned amazingly fast. Their voices are so high-pitched and their modulation is so atrocious that it's hard for me to be sure, but it

seemed very much as if somehow my first pupil had taught them the words for stone, tree and grass. I spent about three more hours with them that day and was even able to teach them a few simple verbs.

"The next day I went looking for my original pupil. I found him in a group of Elves who were all chattering and grunting in what I'll call 'chimpanzee' speech. He did not seem to remember me, and would not let me approach close. I said 'stone', but he only grunted and watched me suspiciously. Just when I was thinking I'd have to start from the beginning all over again, he and the other Elves in the group switched to 'soliloquy' speech. The transition from 'chimpanzee' speech was so rapid that I was startled. Then my original pupil was pointing to the grass and saying, almost questioningly, 'Gass?'

"In the week since I had the idea of teaching them Intergalactica, I've found a consistent pattern: whenever they use 'chimpanzee' speech, they seem to have forgotten everything I've taught them, but in a few minutes they revert to 'soliloquy' speech, and exhibit almost total recall. They also seem to have been teaching each other. Strange Elves have come up to me and said, 'stonn, tee', pointing them out correctly."

"Very interesting, Linguist Lee, and perhaps very significant. Linguist Yakamura, in terms of the time available to us, do you think it practical to teach the Elves enough Intergalactica to satisfy the minimum requirements for communication we must have before passing judgment on them?"

"I'm afraid not, Coordinator Ling. We would encounter difficulties as soon as we try to teach them abstractions because of the necessarily vast differences in our cultures and psychological constitutions. And I see no way to determine how progressive a non-technological race is without intimate knowledge of the abstractions with which it deals."

"A question," Hillier called out.

"Proceed, Transferman Hillier."

YAKAMURA'S description of the 'soliloquy' speech combined with Lee's experiences cause me to wonder whether some form of communal mind might not be operating among the Elves. Is this possible?"

Jamieson had his hand in the air. Ling said, "Speak, Biologist Jamieson."

"It's a possibility too improbable to consider, Hillier. Our diagnostic equipment reveals that while the Elves have their share

of exotic glands and organs, they represent as close an approach to the general Terran mammalian somatotype as it is possible to come without actually being a Terrestrial mammal. One consequence of this is diversity on an individual level, a quality I'm sure Yakamura and Lee have noticed. These are not characteristics commensurate with a communal mind.

"However, there is an unaccountable phenomenon taking place on this world. MeteoroSec reports unusual activity in the upper regions of the psionic spectrum. We investigated it to see what relation it has to the biosphere, as psionic activity seems inevitably to be associated with living organisms. Its nature seems to be such that it can induce a 'resonance' in the nervous systems of the higher orders of mammalian-type life that have evolved here. We do not know how to interpret this. If we reason analogically from what is known of human reactions to the psionic spectrum, it would appear as if some form of sporadic telepathy is at work throughout all the higher mammalian life here. But there are serious drawbacks to this idea. No animal or Elf that we have put through our diagnostic equipment has shown any potential for generating activity in the psionic spectrum. Also, Me-

teoroSec says the source of the activity seems to be highly localized and very powerful."

"Thank you, Biologist Jamie-
son. Have you anything to add,
Meteorologist Hauptmann?"

"Very little. The psionic activ-
ity fluctuates in the middle-Ome-
ga regions of the spectrum. It is
only the Alpha regions of the
spectrum that appear to have any
effect on humans."

"Transference equipment is
psionic equipment, Transferman
Hillier," said Ling. "Would this
activity affect the functioning of
your equipment?"

"It operates only in the Alpha

that they cannot hope to estab-
lish adequate communication
with the Elves in the time avail-
able to us, and since Transfer-
man Hillier feels that his equip-
ment will not be affected by the
psionic activity Biologist Jamie-
son mentions, it is my recom-
mendation that a Transference
contact be established with the
Elves. Before we proceed with a
vote, I would like to ask anyone
who feels he has additional in-
formation to contribute it."

A HAND was raised. Hillier
knew sudden unease when
he saw it was Sven's. Ling nod-



regions of the spectrum, Coor-
dinator Ling. The probability that
it would be affected by a source
of activity in the Omega regions
of the spectrum is remote."

Ling looked around the table.
"Since Linguist Yakamura and
Linguist Lee have made clear

ded. "Proceed, Paleontologist
Mendoza."

Sven's bass tones filled the
room. His gaze fixed upon Hillier
as he spoke. "This may not be
pertinent, but it's a paleontolog-
ic anomaly. Up until three point
two million Greenwich Years

ago, this world was one huge swarm of carnivores. They were exterminated literally overnight. We don't know how it happened. My own observations disturb me. Four out of five of the fossil carnivores we've discovered so far in the three point two million year strata seem to have died locked in a death-struggle with each other. It's not a localized phenomenon. It's something we've found in every one of our sites all over this world."

Hillier felt that Sven was subtly daring him to go through with Transference. Ling was about to speak when the doors to the conference hall opened. Vorobyev of GeoSec came in and found a seat. He raised a hand. Ling gave him a nod. "Speak, Geologist Vorobyev."

"First, apologies for my lateness. I may have some significant information to contribute. This past week, my Section has been searching for fossil fuels and mineral deposits immediately offshore along the seabords. Our borings revealed an unusual concentration of fossilized bones at a level that would correspond to three point two million Greenwich Years ago. We asked PaleontoSec for some men to examine these bones. They delivered their analysis to me immediately before this conference got under way. I hastened here as soon as I had heard them out."

Sven forgot formality. "What did they say?"

"The fossils are those of herbivores. There are beds of them so vast they stagger the imagination. It is as if all the herbivores in the world suddenly decided to commit suicide in the sea, much after the manner of Terrestrial lemmings, three point two million years ago."

Silence fell across the assemblage as Vorobyev concluded. Hillier was struck with a great awe and wonder. Ling spoke at last. "Thank you for presenting us with such intriguing information, Paleontologist Mendoza, Geologist Vorobyev. Let us all hope it is not relevant to the issue we are considering."

"I'm afraid it might be," said Hillier.

"Please explain, Transferman Hillier."

"The cultural stasis of the Elves seems to have begun about three million years ago."

The silence that followed his words was much longer than the preceding one. Ancient and incomprehensible events seemed to fill the hall with intangible shadow. Once again it was Ling who broke the silence. "Do you consider Transference a hazard, Transferman Hillier?"

"No, Coordinator Ling." He was very glad that Ling could not know how his bowels were crawling, half in expectation and

half in an almost delicious terror. "The Elves are so humanoid that I anticipate no psychological hazard in Transference. And any power that might have affected them three million years ago must surely be spent by now."

"We cannot be too certain. But is it your will to go through with Transference if we vote in favor of it?"

"It is my will."

"All who feel that the establishment of a Transference contact with the Elves has become a necessity, please raise a hand."

Betty was the only one with both hands on the table.

BETTY'S living compartment was a complement to her femininity. She had adjusted the electroluminescent wall panels to just the shade of aquamarine that would set off the gold of her hair with quiet taste. She was wearing capri pants and a blouse that hugged her form and matched the color of her hair; her tanned arms were bare to the shoulders. Hillier thought that he had never seen her looking so womanly or so beautiful.

She was occupied with mixing cocktails, deftly measuring out jiggers of neoethanol into tall chilled glasses and adding a pinkish liquid he couldn't identify from where he was sitting. When she came to him, smiling and holding out his drink, he

found he still couldn't place the mixer she had used; its smell was tart, bittersweet, and quite unfamiliar. He took a tentative sip. "Bee! It's good!"

"Glad you like it, Nate," she said as she settled herself into his lap. "You can thank my pupils for it. They believe in bringing oranges instead of apples to teacher."

"The Elves? How come?"

"The big fellow who was my first pupil had some native fruit with him one day. He offered me some and I accepted. I took it to the Birds-and-Bees Boys. Jamieson himself was kind enough to analyze it for me. He said it was quite safe, and that it's analogous to Terrestrial citrus fruit."

Hillier took a lusty swallow from his glass. "How'd you get the idea to use it for a mixer?"

"I'm a genius when it comes to the Preparation of Palatable Portables. What's my reward for my brilliance?"

"A Period of Pleasurable Osculation," he riposted, drawing her more close against him.

There was an intensity to their kisses that betrayed the tension they both felt. Hillier knew that tension for what it was. It was partly Betty's fear for him, now that he was to undergo Transference in fourteen more hours. It was largely his own awareness of what he had to say to her.

"Let's talk, Bee," he said after a while.

She understood. She eased herself off his lap onto the carpeted floor by his chair; when she looked up at him, he saw that solemnity was shadowing the blueness and the brilliance of her eyes. It gave a seriousness to her beauty that he found strangely appealing. She sipped at her drink, waiting for him to begin.

"Overpopulation has molded Terran society," he said. "Earth is so crowded. I still think that the taxes levied on the parents of every newborn child are fantastic. New Olympia is still open and free. The Bureau of Planetary Development annually offers vast tracts of land converted to Terrestrial ecology to homesteaders who can afford it. People can farm such land, be self-supporting and independent, raise a large and close-knit family. Such a family is the New Olympian ideal. In the setting of such an ideal, monogamy is a virtue. Most Terran citizens find this incomprehensible."

"Is this supposed to be a lecture on the relativity of morals?" Her voice was disquietingly cool. "If you're trying to tell me that the Terran ideal is childless promiscuity, I'm well aware of it. I don't think you're coming anywhere close to what you want to say."

"Bee, I. . ." He shut up. She

was right. *Too damn right*, he thought, when he reflected upon how stiff and stilted his little speech had been. He was trying to depersonalize something that was intensely personal. He drained his drink in two hard swallows. "All right," he said. "I'll come out with it."

HE sighed. "I grew up on a New Olympian homestead. I never appreciated how unconstrained my life had been until I came to Terra. I couldn't see how anyone might grow up sanely without wide golden fields to run through or a tall sunny heaven to play under.

"I still feel this way. I feel cramped aboard the *Wotan's Beard*. The one thing that means as much to my soul as Transference is to be the head of a family back home. I want a wife. I want kids. I want open spaces on which I can build my house, grow my food, raise my kids."

He toyed with his empty glass. "It's one reason why I'm a Transferman. The Bureau of Planetary Development doesn't part with its land cheaply. Nor is automated agricultural equipment what you'd call inexpensive. It takes about half a million credits to establish a homestead you can be fairly sure will remain financially solvent. As a Transferman, at three hundred and thirty-three thousand cred-

its for a three-year tour of duty, I should be able to afford that homestead at the completion of my second tour of duty. I'll be thirty-four Greenwich Years old, just the right age to marry."

"It sounds wonderful," said Betty. "Who's the lucky girl who considers monogamy a virtue?"

She was driving to the core of what he had to say with frightening speed. His face flushed a deep crimson. Betty had rarely seen a man look so miserable. Speech for him was anguish. "I was coming to that. We should discuss it like mature adults. I like you very much, Bee. I like you so much that I'm almost afraid. But you grew up on Terra. . . ."

"The traditional light dawns," she said. Her voice was bitterly taut but her face was without expression. "I'm wonderful fun for you on a tour of duty. But I'm also a hip-swinging, free-loving Little Miss Red-Hot from Terra. Just plain not the domestic type. Whatever would the neighbors think?"

Her words sliced into him like shrapnel. He flinched away from her. "Bee, Bee, I didn't mean . . . that's not the way I intended it. . . ."

She rose to her feet in one long lithe motion. He knew a dim surprise as he saw through the seethe of his feelings that there was neither anger nor scorn on

her face. There was, instead, something that might almost have been compassion. She stood over him. "You big boob," she cried. She caught his face in her hands; the scent of gardenias shot a sudden pang through his soul. "You big naive boob! You must have seen how hard I was trying to draw you out all the months I've known you. Didn't you ever stop to ask yourself why?"

"I . . . I"

She moved a finger across his lips. "Oh, hush! I'll tell you. You were too busy being Suave and Detached to really ask yourself why." She was laughing now, laughing in queer sobbing spasms, laughing out her pain. "You Transfermen! The fifteen years you should be growing up and learning about women you spend in HQ. Because HQ is on Terra and believes in safeguarding the emotional wellbeing of its little dears, it provides you with Joygirls as soon as your maturing gonads start your sap rising. So you come out thinking you know a little about women. Oh! Oh! You poor, *poor* big boob!"

NOW she was crying in huge gasping sobs; her tears streamed down her cheeks and splashed on his shirt. He did not know what to say or do. He could only blurt out ineffectively, "Oh, Bee! Don't cry, Bee!"

She released his face and stood wringing her hands, forcing back sobs. She said, "The first time I saw you, wandering around in the ship's lounge like a lost puppy, my heart went out to you. I just *had* to take you under my wing. I knew that if I didn't, you might never become a socially functional human being. I hated the thought of you remaining as out-of-place as other Transfermen I've known. I broke off with Sven the very second I saw you there in the lounge, staring around with such large bewildered innocent eyes!"

"Didn't you ever wonder why I broke off with him? Didn't it ever occur to you to ask me anything about myself or my feelings? We women don't just volunteer information about ourselves. It's not our nature."

"Bee"

"But no, it never occurred to you. You went around congratulating yourself on what a Mature, Casual Relationship you were having with me. Just the thing to ease the pressure in your tastes while you put away your money for a homestead and an anonymous wife. Were you egomaniacal enough to believe yourself such a Master of Witty Repartee or such an Artful Lover that nothing else was needed to account for my sticking with you? In the face of Sven becoming increasingly

temperamental and difficult? When half the men aboard ship were making wistful little passes at me?"

"*Bee!*" he yelled. He came to his feet and reached out for her. "Forgive me! Oh! What an ass I've been, what an ass. . . ." He suddenly dropped his arms to his sides and stood as if dazed, as if struck speechless by the overwhelming fact of his asshood. He collapsed back into the chair.

In the ensuing silence, Betty stood with folded arms, watching him from narrowed eyes. He gave her a smile that was twisted and wry, but there was a flicker of steel in his gaze. "Let's have another drink."

She fixed new drinks for both of them and sat on the floor beside him. He took a sip from his tall cold glass, then said, "I'll be direct, Bee. I want to marry you."

"When did you decide that?"

"Just now."

Disbelief alloyed with a desperate hope shone in her eyes. "That was abrupt."

"Let's say I suddenly saw things I didn't see before," he said. "For a long time I was captivated by your beauty and was flattered that you saw fit to be my lover. But, as time went by, I began to be disturbed by my responses toward you on a sheer emotional level. I could see how my lack of sophistication

caused me to seem boyish and appealing to you. . . ." Betty's eyebrows lifted in surprise at this statement; he laughed an abrupt, spasmodic laugh, but there was more pain than humor in it. "No, dear, I wasn't quite as naive as you believed. I saw how what you interpreted as my boyishness aroused a latent maternal sentiment in you. I also saw how I was drinking it up. I wasn't oblivious to the reasons why. I had had a good relationship with my mother throughout my childhood; leaving her for fifteen years when I was only twelve left a feeling that I'd 'lost' a fair bit of mothering. You were giving it back to me, and I loved it. Of course, I rationalized, since you were a Terrian, you were not to be thought of as a wife. But why should that keep me from enjoying a good thing? All I needed to do was insulate myself from any possibility of our relationship becoming a complicated emotional involvement.

"My thoughts were all Me, Me, Me. There were no thoughts for Betty Lee. But all this while, Betty Lee was working a special magic on me. It had little to do with the fact that she occasionally mothered me. It had everything to do with the fact that her quick and sincere mind, her enchanting way with words, her ready understanding and com-

passion, had become precious to me."

HE took a long swallow from his drink before continuing, "One day I caught myself straining to interpret chance remarks of yours as evidence that, deep down inside, you were particular to the monogamous ideal. That alarmed me. I told myself I'd be a fool if I fell in love with you. But increasingly, it seemed that if a fool I must be, there would be no gladder fool than me. When you said you wanted me as your Exclusive, I told myself that now was the time to make our positions clear to each other. What I was scared too silly to see was that you had already worked your magic on me."

"Poor Nate! Why didn't you ever ask me outright how I felt about monogamy?"

His grin was wry. "To be honest, I was afraid it might lead to words that would break up a good thing we had going between us."

"Don't you wonder why I once wanted Sven as my Exclusive? Don't you wonder why I told him I hoped you'd have me as your Exclusive?"

"I haven't had a chance to think about it."

She rested her cheek against his knees; he stroked her hair. "Your boyishness attracted me, Nate. There aren't many chil-

dren on Terra, and BuGalEx employees are rarely in a position to see them. Not seeing them makes them all the more appealing. But before you think my latent maternal instincts are running away with me, let me tell you about a book I read when I was fifteen.

"It was an ancient book by an obscure English philosopher, Olaf Stapledon. The wonder of it lay in its Interludes, where Stapledon gave brief and moving accounts of his relationship with his wife. It was the second interlude, called *The Heart of It*, that changed my whole life. I had never known what woman could be to man, or man to woman, until I read it."

"What did he say?"

"Grand and unforgettable things. Such as when he said to his wife, '*Again and again our diversity hurts, it even infuriates; but it does not really matter. Indeed in the end it is an enrichment, a painful but in the end a welcome participation of each in the uniqueness of the other.*'"

Hillier, listening, knew that what he heard was an argument for exclusiveness that went immeasurably beyond such trivia as social conventions. He was uncomfortably aware of the injustice he had done Betty by assuming she conformed to the Terran moral stereotype. She

saw his unease and divined its cause. She said, "All the same, it took years and years for the full meaning of Stapledon's words to soak into me."

"How so?"

"What he spoke of was in direct opposition to the nature of the man-woman relationships I saw all around me. I felt odd, quaint, displaced. I went looking and looking for a man in whose uniqueness I could participate and who would himself participate in my own uniqueness; all I found was promiscuity. I tried to form an Exclusive relationship with every man who became my lover. I was trying to force such a relationship on Sven. Technically, he's the most excellent lover I've ever had; I was confusing his lovemaking ability with genuine love. Then I met you, and for some reason all my previous relationships with men seemed hollow. I just had to find out why."

She was warm in his arms. She was so dear that it was frightening. *What if I had never met her? What if I lost her?* He held her tight and crooned her name. She joined him in the poignancy and the passion of the moment. Finally he said, "We'll announce our Exclusive status before I make Transference. Then Sven will leave you alone."

At the mention of Transference, he found that she was sud-

denly crying in his arms. But she said, "Yes, dear."

There was a meaning to the love that they made to each other afterward that gave it an intensity neither of them had realized could be a component of lovemaking. This was no plain physical gratification, no greedily seized pleasure; this was a unique and precious way of telling the Other:

You, too, exist.

II

Death is the least of tragedies.

—Anonymous

HILLIER stood looking at the Elf into which he would be Transferred. It was sitting on an aseptic white table, darting frankly curious glances all around. It was the Elf that had been Betty Lee's first pupil, and was unusually tall for its species, being just over a meter and a half in height. *How strange and beautiful it is*, Hillier mused. The fine golden down that dusted it all over added to the strangeness and the beauty; against that sheen its eyes of azure-flecked green stood out in startling contrast. Child-wide and child-guiltless were those eyes, a contradiction to the satyr-like semblance its tall pointed ears gave to its countenance. The ears had a mobility reminiscent of a

cat's, twitching this way and that as if each sound were too precious to miss.

Jamieson came to Hillier's side and said, "The biotechnic equipment should finish synthesizing the anesthetic for the Elf in a few more minutes. How did the Transference circuitry check out?"

"Perfectly."

"While you went over it, NavigSec sent us the mobile minitelevisor we'll use to keep track of you if you go outside. It's a beautiful piece of equipment."

Hillier nodded.

"Antigrav circuitry stuffed into a volume no bigger than a teacup! It's amazing, Hillier."

Hillier knew that Jamieson was indulging in nervous chatter; it was symptomatic of the spell of tension his coming Transference had cast across the whole ship. The public address system had announced the news that Betty and he were Exclusives; this added to the tension. He had been the recipient of covert, troubled glances all day. He was about to offer Jamieson some inconsequential remark out of politeness, when the Elf jumped off the table and piped, "*Be-eee! Be-eee!*"

Betty had arrived in the company of Section Coordinator Ling. Ling gave Hillier and Jamieson his usual polite greetings, then said, "I've called together the Council to monitor

your Transference. I wish you luck, but I trust your training will make luck unnecessary."

Betty was saying, "Table! Table!" The Elf was shrilling, "Teeble! Teeble!"

Betty turned to Hillier. "He thinks he's here for a language lesson. Oh, Nate, I hope Transference won't hurt him."

"He's more likely to be surprised than hurt."

The others of the Council ar-

would be to decide what to do if an emergency arose that the automated functions of the Transference equipment could not cope with. Hillier was giving them a last-minute briefing:

". . . I'll repeat, the main things I want you to remember are not to be alarmed if it takes hours or even days for me to come to terms with the Elf, and to keep the mobile minitelevisor as inconspicuous as possible



rived, Sven among them. There was no friendliness in the look he gave Betty and Hillier.

IT was the same group that had decided upon the necessity of Transference. Its purpose now

while you're monitoring me outside."

There followed a short question and answer session. Sven kept out of it, scowling. When it was over, everyone except Sven crowded around Hillier, wishing

him well. Betty came close, and what he saw in her eyes sent a surge of love through him that shook him. He took her into his arms and tried to kiss away her fear, knowing all the while that he tried in vain. He buried his face in the golden hair near her ear and whispered, "I'll come through, Bee. For you. I love you."

He had to pass close by Sven on his way out. The huge dark paleontologist held up a detaining hand. Bitterness threaded its sharp way through his rumbling voice. "I've no hard feelings over what you did to my reputation as a lover with your announcement today. Just be careful. Bee would go to pieces if she lost her surrogate son so soon after finding him."

The words were close enough to the truth to hurt. For an instant Hillier wanted to assault the big man. He tried to make the irony in his reply savage. "I'm deeply touched by your concern."

Betty pulled him on before a scene could occur. Her lips were a taut white quivering line. They walked in silence all the way to the Transference room.

AT first there was chaos. Color was part of the chaos. Color that no human eye had ever seen because its biochemical constitution was inade-

quate to register the wavelengths by which this color was perceived.

Sound was part of the chaos. Sound that no human ear had ever heard because no human ear was capable of reacting to frequencies much over 20,000 cycles per second.

Smell was part of the chaos. Smell that no human nose had ever detected because no human nose was sensitive to the chemicals constituting this smell.

Emotion was part of the chaos. Emotion that no human being had ever experienced because no human being possessed such glands releasing such secretions as were causing this emotion.

And there was something else.

A man living in the shadow of a mountain will be conscious of the presence of that mountain. It will not necessarily be an obtrusive consciousness. It will simply be an awareness, a statement to himself: *It is there*. He would be far more conscious of the mountain's absence than of its presence.

In the middle of chaos there was something analogous to the consciousness of the presence of a mountain. It was not a mountain. There were no words for it. It was not obtrusive. It was simply *there*. And though the chaos was all around it, it was not part of the chaos. Somehow the chaos would have been more cha-

otic still if that consciousness of Something had been absent. With turmoil everywhere, it loomed above the turmoil as if it were supremely Right.

As a man blind from birth who is given sight must learn how to see, as a man deaf from birth who is given hearing must learn how to hear, so was it necessary for Hillier's consciousness to piece order together out of the chaos. Fifteen years of his life had gone into rigorous training for this. He was adept at it.

Sight came as a revelation to him. Sound came as an inspiration to him. Logic and reason alone could never have wrested a coherent order out of such kaleidoscopic sensations. Only the encompassing and integrating abilities of a highly developed intuition could have discovered that order.

Colors outside all human vocabularies filled his field of vision. They were attributes of forms that he saw with a clarity which rivalled or even surpassed the keenness of vision possessed by high-soaring birds of prey. One of those forms he could recognize as Jamieson. The recognition was not easily achieved through the wild colors and crystalline clarity.

JAMIESON was talking. His words came to Hillier as oddly-inflected gibberish. He pa-

tiently set about disregarding the confusing overtones that would have been inaudible to a human ear. By so doing, he brought coherence into Jamieson's speech.

"... stand me yet, Hillier? Can you understand me yet, Hillier? Can you understand me yet, Hillier?"

He did not try to respond vocally. Human speech is a learned pattern of responses that triggers the appropriate kinesthetic "cues" in the muscle groups involved. This alien brain he was in held no such learned pattern of responses. He tried to raise his left hand in answer. Instead, his right hand jerked and trembled violently. His transferred consciousness had retained the "cross-over" plan of a human brain, where the left half of the brain controls the right half of the body, and vice versa. Evidently this body's cerebrospinal organization included no such phenomenon. But it already possessed learned responses. It knew how to walk, how to manipulate things; it was up to him to track down the neurones containing such responses and make use of them. His superbly trained intuition went to work.

"Do you understand me now, Hillier?"

He sat up. Speech was still too subtle and complicated a function for him to handle, but he

could nod. Jamieson nodded back, for the moment satisfied.

When he had mastered the body well enough to walk around the Transference room, he had time to reflect upon the wrongness.

Where was this body's true owner?

The basic tenet of Transference was: When Transferring into a being who does not know what you intend to do, be prepared to meet violent resistance from its equivalent of an ego.

The Elf had not known what he intended to do.

The Elf's ego was not resisting.

The Elf seemed to have no ego.

THERE was only that consciousness of Something that loomed far away, that was supremely Right. He was irrationally glad it was there. There would be no security in all the world if it were not there . . . protecting, comforting, easing all fears . . . fears? *Why should I fear?* He looked within. Part of him was Hillier. Part of him was small and frightened and nameless. In its fright that other part of him reached out toward the Vastness brooding far away, as a child might reach out for its mother. It was not a physical reaching. It was a worldless yearning and imploring.

Alarm shrilled through Hillier.
That is not me!

It was the Elf's ego. No wonder it had escaped his observation! Of all the thousands of egos he had contacted throughout his training, human and friendly-alien, he had never contacted an ego so tiny, so unassertive, so shapeless, which stood aside so passively as he usurped control of its body. It reminded him of nothing so much as an overly submissive child. He tried to contact it by creating on the mental stage that they both shared images of friendliness and warmth, a desire for understanding, a desire to help.

The response was trusting and defenseless, a feeble flow of concepts and images whose general tenor was: *Oh, kind, good . . .*

This Elf had been chosen for Transference because it had been one of Betty Lee's most avid pupils, implying an active, curious and strong mind. Hillier knew unease as he wondered whether the experience of Transference had driven it mad.

More small warm thoughts snuggled against him. *O, so good, so good, O friend, O great and kind . . .* they were concepts, not words . . . and then images: a joyous running and singing in the dawn, through a world of such color and such beauty it was hardly to be borne.

Hillier presented on the men-

tal stage a routine of imagery patterned to facilitate communication with relatively backward intellects. The Elf was briefly interested in what he was doing, but it quickly grew bored. Hillier received from it a sensation that caused him to think of a chafing, restless child. It flooded the mental stage with gay lucid images of dancing and singing through trees and sunshine.

He was getting nowhere. The Elf wanted to be given back control of its body so it could return to the simple revelry of which it was thinking. There was nothing to do but give it its way; he might learn more in the capacity of an observer. Just as he reached that decision, Jamieson's voice, strange and unnaturally loud, jolted him. "How are things going, Hillier?"

He nodded to show that all was well and gestured toward the exit.

"You want to go?"

Another nod.

"Very well. Best of luck, Hillier."

THE mobile minitelevisor buzzed after him out into the dawn. The sky was more green than blue, and the clouds burned with more colors than he had ever seen in Terrestrial or New Olympian dawns. Plains wet with dew rolled away from the *Wotan's Beard* toward a forest that

began at the bases of remote foothills, which swept in shadowy masses up toward snow-mantled peaks farther beyond. The red and golden light of the dawn lent its glory to those tall slopes of snow.

He gave back to the Elf control of its body. It skipped and shouted and ran toward the foothills; the light of early morning was warm on its back. Hillier was content as an observer. He shared all sensory data with the Elf. The tiny buoyant spirit seemed to infuse him with its buoyancy; his awareness that he was simply participating in the sensation of alien glandular reactions did nothing to detract from the uniqueness of the experience. Something in him yearned to merge itself completely with this ebullience, this gaiety; the problems of communities of suns were too troublesome and unreal. . . .

An hour of skipping, running and singing brought him to the forest that began at the bases of the foothills; soon he was passing through shadowed glades and clearings filled with the music of birds whose plumages glittered with colors out of delirium. Then from afar drifted a sound of merriment and song; he quickened his pace.

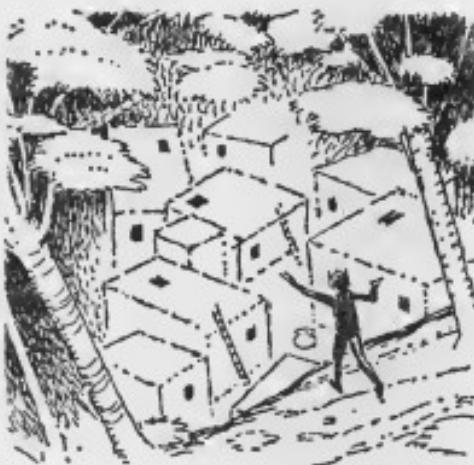
Rounding the shoulder of a foothill, he saw that the forest came to an abrupt end and that

a cultivated alley stretched beyond; in the center of the valley was a sprawling huddle of mud-brick buildings that he recognized as the largest of the semi-ruins the *Wotan's Beard* had spotted from its observation orbit. The small golden bodies of many Elves were moving about brightly down there; from them came the sound of laughing and singing. The Elf whose body he shared trilled its joy and ran toward its people through tossing fields of alien grain across which the shadows of clouds chased themselves.

Soon he was in the midst of the largest gathering of Elves he had yet seen. All of them seemed to think that life was a perpetual round of play. They danced and they sang, and left the fields untended, and seemed oblivious to the decrepitude of the buildings that were apparently their homes; Hillier's intuition kept on comparing them with children who have found themselves suddenly free of all supervision. But he could make no sense from what he saw.

IT was high noon now. The sun hung huge and golden overhead. Small puffy clouds frolicked across green immensities of sky. The activities of the Elves gradually slacked off. It was a day for drowsing. They found places where they could lie

down in the shade and sing themselves to sleep. Hillier was not averse to joining them. The setting was so restful. So much security seemed to exist everywhere. All security was assured by the Vastness that could not be seen but which loomed as a mountain on the psychic horizon. If this world was declared open for colonization, he would recommend that every step be taken to preserve this idyll of the Elves. Of course the League would see to it even without his recommendation. Man had learned to respect sentiences other than



his own. In the black enormity of this Cosmos, sentience was so rare a phenomenon that it could be nothing other than precious. There were words to that effect in the constitution of the League they had been required reading at HQ his mind wandered among images as

among dreams . . . there passed before him the halls of HQ, splendid soaring creations of glass and plastic and steel. . . . *O, New Olympia, how can you be so achingly Fair?* . . . the *Wotan's Beard* swam immense in space before him: *Here is a Leviathan of metal and mystery and elemental flame* . . . then Sven's dark massive handsome face; *I was so mad at you that I was ready to beat the hell out of you, big as you are* . . . and Betty: *Bee!* . . . and more images and more; his mind raced among them as if driven by a storming wind . . . and beyond the images, an oblivion, and as the oblivion overtook him his whole life and whole being were reviewed before the eye of his mind at a speed that had no human meaning. . . .

He came awake in darkness.

His first reaction was, *What a dream!* It was followed by a flurry of rationalization: *to be expected . . . reaction of a human consciousness to an alien organism* . . . and the thoughts died away as he noted the fact that it was night, that overhead clouds were passing across the face of a great silver moon occulting three degrees more sky than Luna as seen from Earth, and that he was alone except for the Elf's tiny ego.

Considering this world's leisurely period of rotation, 32

hours 17 minutes 8 seconds Greenwich, he must have been asleep for so long that those aboard the *Wotan's Beard* would be feeling concern for him.

There was a buzzing in the nearby shadows.

Moonlight pouring in a cold tide through a high rift in the clouds dispelled the shadows; he could see the source of the buzzing. It was the mobile minitelevisor. It spoke: "Are you all right, Hillier?"

He took control of the Elf's body and noted how passively its true owner relinquished control. He nodded at the televisor. He pointed to himself, then gestured in the general direction of the ship to indicate he meant to return.

"Shall we send a heli?"

There was so much he wanted to understand. The long walk across the hills might help him clarify his thoughts. He shook his head, No.

"Very well. We'll watch over you, Hillier."

HE set his course for the hills he had crossed in the morning. Soon he was passing through the forest. It was shrouded in darkness. The fitful moonlight hindered more than it helped, distorting perspectives. A wind was rising.

He thought of how isolated he was. The small submissive ego

whose body he was using was no real companion; it kept trustingly out of his way and watched. He wondered why it should be trusting. He thought again of his isolation. Loneliness settled impalpably about him. The mournful noise of the wind through the treetops made it worse. He thought of how glad he would be to see another kindred being, even a simple Elf who apparently filled its days with nothing but dancing and singing. . . .

Something gleamed in the darkness ahead. His inhuman ears caught a subtle rustling beneath the moaning of the wind on high. He came to a dead halt. The rustling drew closer through the underbrush ahead. He edged away from it into a clearing. It followed. He stood poised for flight.

The first thing he saw was the smile. It was a smile made silvery by silver moonglow sifting through a sky of crowding shadows. Then there was laughter, tiny and clear as a far chiming of crystal bells, contradicting the sighing of the dark winds driving through leafy and swaying heights. Then borne from afar upon the wind came faint music: a stirring, a throbbing, a prelude to song that would last all night long. . . .

Again the flashing of a smile in the shadows, and a voice, in-

sistent and exultant: "The night is triumphant! The night is wild! The spirit cries out to soar free! Follow to the Havens of happiness and love!"

Deep in him a seed of panic was sprouting. *That was spoken in Intergalactica!* Before the seed could blossom, the smile was gone. Loneliness again beneath tall tossing trees and a sky all of silvered darkness. From afar the continued sounding of the music so joyous and free. An ache deep within. A yearning beyond naming. A consciousness of wonders waiting in the singing night.

Indecision. Urgency. An image within of a woman whose hair was a shade of gold he had seen in a distant summer dawn. Her name lived in his soul but it was not clear. He tried to make it clear. . . . eeeeeee. . . . eeeeeee. . . . The remote music rioted through his head. He felt that by clinging to the name he was losing something: a warmth, a security, a strange calm comfort and an understanding that was all the world. . . .

Tempestuous music beneath a tempestuous sky.

"The night is young! The night is long! Together we shall weave a world of song!"

He stumbled sobbing toward the smile that shone again from the shadows, toward the figure of gold that stood with wide wel-

coming arms. She knew the way to the Reassurance beyond all other reassurances. Nothing else mattered. "I come!" he tried to cry. The sound he made was a warbling trill.

THERE was a leaping and a running with a creature more beautiful than a dream. A dancing by great fires ringed around with bodies gleaming golden. A drinking and a feasting and a feeling of such fellowship as to break the heart. *O People mine!* And lastly that most lovely of all creatures feminine gazing at him with wide intense eyes and saying, "I will go dancing with you under the flying moon, the wild moon; I will run singing with you beneath the jewelled stars, the cold stars! Naked and together we shall race the whispering voices of the night! Oh! How luminous will our eyes be among the forests beneath the moon! Oh! How like a cloud of mist of silver will our hair be against the stars above the moon! Oh, oh, oh!"

No more the yearlong voyagings in a constricted bubble of energy and steel across Night's greatest gulfs! No more the tedium of changeless days! Only a long loving with the woman of wonder and the freedom of forests beneath the stars. . . .

Afterward came the confusion and terror. A small buzzing thing that shone in the light of the flames yelled at him: "Hillier! Good God, man, what's wrong? Hillier!" The woman of wonder staring at him with eyes of emerald flame, urging: "Run with me! Run with me!" A long running through the glades of the night with the woman of wonder by his side, and the small buzzing thing following, following, finally crying: "Oh, Nate! Nate! Come back!" Then trees and steep hills and darkness, and a vast roaring thing shadowing the stars and sweeping the forests with beams of blinding light. Then the sleep of utter exhaustion.

IN the conference hall of the *I Wotan's Beard*, Coordinator Ling's words were a wind fanning the wildfire of grief and fear that blazed through Betty Lee: "The helis report it's impossible to land anywhere near him. He is high up on the face of a mountain, and the winds are unpredictable. I've called them back."

The seethe of emotion within her ran raw and shrill through her voice. "That woman! It was that woman! She did something! Let me talk to her! I must fight her!"

Ling would not let the silence that followed become embarrass-

ing. "We all share your fear in our own individual ways, Linguist Lee. Wait a little. Biologist Jamieson reports that he is once again ready to activate the emergency recall mechanism on the Transference equipment. Perhaps this time it will succeed in bringing your Nathan back."

"Once again! This time! How often have I heard that? Ten times? Nate's still out there!" She could see his exhausted form in the monitor screen, glimmering a pale gold beneath moon and stars. The woman of wonder stood above him. She was looking at the mobile minitelevisor. It seemed to Betty as if that strange gaze saw beyond, saw straight to her. She could not bear it. She broke into uncontrollable sobbing.

A hand gentle in its roughness fell onto her shoulder. A voice that one would think was too deep ever to be tender nevertheless said, tenderly, "Take it easy, Bee. We're doing all we can."

She tossed her head and saw Sven's face through a blur of tears. She blinked them away and was confronted with the fact that she had never seen him looking so drawn, so haggard. The words blurted out of her: "You look dreadful."

Humor found no home in his reply. "It's how I feel."

He looked at the monitor

screen, and she thought she saw the shadows of some inner pain moving in his eyes. "I feel somewhat responsible for this," he said.

"Why? Nate had the final decision on Transference."

"I didn't have to vote in favor of it. Something in me told me that I shouldn't. But I was angry at both of you at the time." He shook his head in a gesture of slow, deliberate annoyance with himself. "My intuition may not be comparable to a Transferman's, but within my specialty it is excellent. The fossil carnivores in the three-million-year strata have always disturbed me. I felt that Nate brushed aside too lightly the possibility that whatever agency wrought their ruin might still be present. When Jamieson announced that the psionic activity we noted in the Omega regions of the spectrum had set up bands of interference throughout the whole spectrum, incapacitating the emergency recall equipment, I thought immediately of the fossil carnivores. Something exists here that we should have tried far harder to understand before attempting Transference. I should have brought my premonitions into the open at the conference."

She looked at him steadily. "The only thing I don't understand is why you're suddenly

showing such concern for Nate."

"It's simple," he said. "I owe both you and Nate an apology."

"Why do you think so?"

"Remember when we were lovers? I thought all your talk about the wonders of Exclusiveness was nothing but prattle. I turned you off because I believed you were going through one of those moralistic flurries Terran women are so prone to. I told myself you'd get over it.

"Then you took up with Nate. I thought you were deliberately insulting me, with Nate as your willing accomplice. The extent of my stupidity is the length of time I labored under that delusion. It's only in the last few hours that I've been able to see the truth."

"Which is?" she asked.

"Simple spite wouldn't have kept you with Nate for a whole year. Simple spite could never account for the concern and terror I've seen growing in you all night. I'm beginning to understand, dimly, what you mean when you speak of love. Sometimes it must hurt terribly."

"It does! Oh, it does!" She turned to the monitor screen, to hide the tears gathering in her eyes. She saw the woman of wonder. "She has something to do with all this," she hissed. "Sven, I must talk to her! Try and convince the others that I must talk to her!"

Ling spoke. His voice was weary. "There is no need to convince us, Linguist Lee. I cannot see what harm it will do. Go ahead and talk."

THE first pale gleamings of coming day were edging over the silhouettes of the eastern hills. The golden down and golden mane of the woman of wonder turned a richer gold in that growing light. Her wide brilliant eyes of emerald and crimson that had held such love for Hillier throughout the wild night were not now fixed upon him. They were fixed instead upon the small buzzing thing that hovered a meter away from him. Two score Elves in a semicircle around her regarded it with a similar fixity.

"Nate," said the buzzing thing, "are you awake now? Can you hear me?"

There was weariness and strain in that voice, tenderness and a great fear. It disturbed him deeply. He did not want that fear to be. He sat up, trying to speak.

The woman of wonder came to him and sat down facing him. The love that was in her eyes was as oil on the troubled waters of his soul. He could only sit, staring and smiling at her.

"Let him go," said the buzzing thing. "He is mine."

The woman of wonder turned to the buzzing thing. Her eyes

seemed to become all crimson. She said, "That is for him to decide."

"Nate, this is Bee. Don't you remember me? I'm so afraid for you. Come back!"

He stared blankly at the buzzing thing. How could it make such demands of him? Come back? To what? To confinement in a shell of steel that would bear him away forever from the woman of wonder. To responsibilities that no man should be required to bear. The request of the buzzing thing was so obviously mad it needed no answer.

"Nate! Don't you understand? Speak to me!"

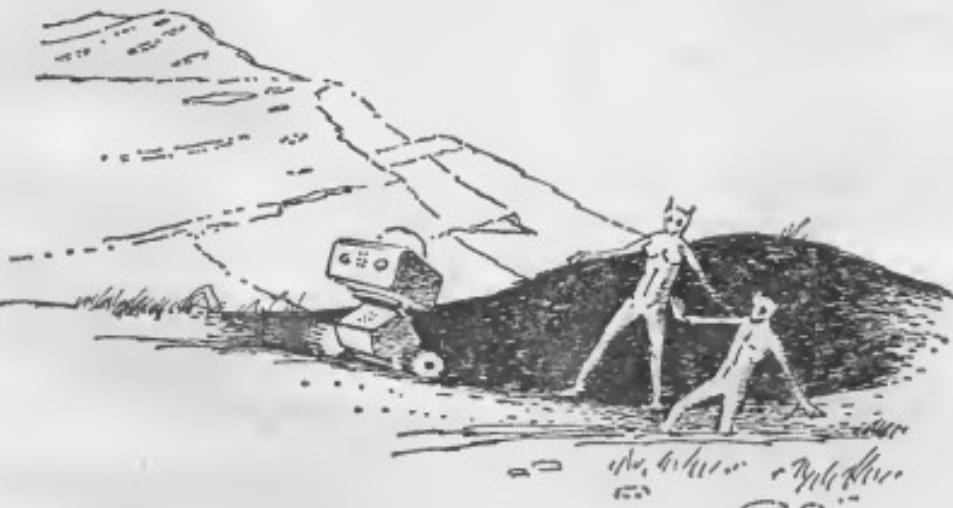
There was an urgency in the words that troubled him. Far back in the murk of his mind stirred the thought, *I am hurting someone.* It was a pain he did not want to cause. It was a

pain he wanted to ease. There was something he could say that might ease the pain. He tried to speak. A trill came forth. Vaguely he remembered that throughout the night of madness he had made increasingly successful efforts to talk to the woman of wonder. He achieved an uncertain control of his voice.

"Beeeeeee," he shrilled.

"Nate!" cried the buzzing thing.

THE hope that was in the cry caused an ache in him that he could not understand. He looked at the woman of wonder. The love for her rising up in him was so insupportable that he gasped. The incomprehensible ache warred with the rising love. Then only the love was left. It trilled through his voice as he said, without a quaver, "I will stay here."



A sound came from the buzzing thing very much like a sharp intake of breath. Suddenly it roared with a voice of thunder, "You gutless ingrate! Do you realize how much you just hurt Bee? I should . . ." Muffled noises came from it, then a thin small voice crying as if from far away, "Give that mike back to me!"

Doubts and indistinct terrors were growing in Hillier. He looked to the woman of wonder for strength. He vented his tension on the buzzing thing by yelling, "Go away! Leave us alone!"

It replied in sere mellow tones, "For your sake I am glad you are not here right now, Transferman Hillier. It would not please you to see the hurt that you have caused. But I assume your reasons are adequate. Would you be so kind as to explain them to me?"

The woman of wonder put her hand in his. She was so loving. She was so beautiful. She was worth all things. He said to the buzzing thing, "I love her."

The buzzing thing said carefully, "I must admit that even to a human she is quite attractive. But no normal man would be likely to think of her as a lifelong mate. And wouldn't the ego who owns that body you've appropriated object to a lifetime of control?"

His uncertainty and tension

were returning. He dared not look away from the woman of wonder. He screamed protest at the flawless logic of the buzzing thing, "It doesn't matter!"

"I beg your pardon for having to contradict you, but it does matter. It matters very much to Linguist Lee, Paleontologist Mendoza, and to myself. Something has happened and we dare not leave you here until we understand what has happened."

The disquiet that the words raised within him infuriated him. "Leave me alone with her!" he shrieked. "Leave us alone on our world! Go away and never come back! You do not belong here!"

Words freighted with vehemence spat from the buzzing thing. Their object was the woman of wonder. "What have you done to him? What kind of control do you hold over him? You do not love him! You never did! You are protecting your own interests at the expense of all that is dear to him! Give him back to me!"

From out of the confusion within him a thought, faint but exultant, appeared: *Oh, Bee! My Bee! You're fighting for me!* Then the thought was shoved far down into inner shadows as the woman of wonder rose to her feet. The consciousness of her presence would permit consciousness of nothing else.

The woman of wonder spoke. "You yourself are the reason why I cannot give him back to you."

"What do you mean?"

The woman of wonder seemed to come to a decision. "Because you were right about one thing. I am defending Myself."

SILENCE in which a limb of the sun crept over eastern hills and sped a shaft of morning light across valleys still swallowed in shadow. The beam poured across the woman of wonder and caused her golden down to shine as if it were on fire. Terrible she now seemed as well as beautiful; she had ceased to pretend to be what she was not. A power was in her and went before her, and the glory of the morning seemed as a homage being paid to her.

The shades of confusion were driven from Hillier's mind as if dispelled by the freshening light of the dawn. He knew a long moment of inner pain as he realized how much anguish he must have caused Betty. Then awe numbed him to his soul. The Vastness that had bulked as a mountain on the psychic horizon was remote no more. It abode in the woman of wonder.

Even the voice of the buzzing thing seemed subdued by the change that had come across her. It asked, "Who are you?"

Her voice rang with the richness of the power she had chosen to reveal. "I am one Elf, the Elf who is now speaking to you. Equally, I am all the Elves. But I am not a communal mind that is the sum of all its bodies. I am one intellect in one body and yet I am all the Elves."

The awe in Hillier found its way into his voice. "How can this be?"

"You can understand only by understanding how I came to be."

"Tell us," insisted the buzzing thing.

"Long ago the carnivores reigned. The Elves could not compete successfully against them. They were slowly dying out. What they needed was a perfect sentinel-system that could warn the tribe in ample time of the approach of predators. But when death moves with the speed of lightning and strikes with the power of thunder, such a system is almost impossible.

"But Evolution labored, and I am her child.

"I was born thousands of times over a span of millions of years. I lacked sentience, and would last only a decade or two. I was merely a psychic function in the body of one Elf that could perceive with the perceptions of all the tribe. I warned them of the approach of danger,

and with so many sources of perception to work with, I was effective enough to permit them to increase their kind. But whenever the body housing Me died, I too died.

"My comings and My goings forced them into progress. When I existed, they could increase. When I was gone, they had to rely on themselves. It was My absences that stimulated them into discovering tools and fire and the uses of language. As they progressed, their numbers grew and their tools and language became more complex. Consequently, they had less need of the service I could provide. Then, when they had achieved the cultural level you call Middle Neolithic, their language was sophisticated enough for Me suddenly to become aware of Myself as 'I'.

"With the minds of all the Elves to draw upon, I learned at phenomenal speed. A pattern of tensions along the temporal dimension of the psionic spectrum told Me that I had been upon the world thousands of times before. It was no great logical step from that observation to a realization that I died whenever the carrier of My nucleus died. I feared that if I died and were re-born, I would forget how I had become aware of Myself. This fear drove Me to My experiments at control.

"My ability to control was an

extension of the means by which I could warn the Elves of danger. The Elves sensed My gropings in the direction of control, and resented Me. They changed My name from the 'God-who-silently-warns' to the 'God-who-tries-to-command'. I was angered and fought harder for control. I told Myself that with complete control, I could better fulfill My protective function. But I found that immature minds were far easier to control than strong, stubborn adult minds.

A ROUND that time, the body housing My nucleus chanced to mate with a female carrying the correct combination of genes that would result in another such nucleus as Me. In the past, My unreasoning nucleus and the other had operated together as an unitary function. Now I found that I could impress all My knowledge and being into the nucleus of the other, making it, in effect, Myself. Exercising My developing control, I mated always with partners who carried the correct combination of genes to produce another such as Me. Thus I have given birth to Myself for more than three million of the years you reckon by."

Hillier felt the golden morning all about him turn suddenly chill. He cried out, "The cultural stasis! The carnivores!"

The woman of wonder looked at him. Was that a dream of compassion he saw in her eyes? "Yes, Nathan. The minds of children were easiest to control. They grew so used to My guidance that when they matured physically, their minds remained immature. My will overrode theirs so often that they never developed truly independent wills for themselves. This led to disaster.

"The adults of that generation grew old and died, and I suddenly realized that the children had not bothered to learn any of the skills of their elders: they had been too dependent on Me. Overnight, the tribe lost most of its agricultural and tool-making knowledge. The Elves were once again savages. They were not even truly Elves; they were simply My multiple body. They knew just enough to feed and shelter themselves when I had no use for them. I could not remain continually aware of every part of My multiple body, even as you could not remain continually aware of every part of your single bodies.

"My life became an eternal round of urging My multiple body to produce food and shelter for itself. All the while the carnivores grew more fierce. I saw that I was in danger of extinction. In desperation, I tried My greatest experiment.

"I tried to control the carnivores. Their vicious and individualistic mentalities were far too difficult to master. I directed My efforts at the herbivores and found them easier to master. I caused almost all the herbivores in the world to kill themselves in lakes and seas. In the famine that followed the carnivores turned upon and slaughtered each other. Now the immature minds of My multiple body may safely run and be happy when I have no need for them.

"Knowing what I am and how I came to be, can you tell Me how your League will deal with Me?"

SILENCE again, and the light of morning reaching farther down into the shaded valleys. At last the buzzing thing spoke. "I can only speak for myself. Will you please let Nate come back to me?"

"I cannot."

"Why?" There was anger and despair in her voice.

"I have already told you. You yourself are the reason why."

"That demands an explanation," said Hillier.

The woman of wonder turned to him. Was it pity or compassion that swam in the strangeness of her eyes? "The minds of your people are too alien for Me to merge with Mine," she said. "But when you entered into part

of Me, all that you had ever thought or seen became accessible to Me, including an analog of the kinesthetic coordination that the vocalization of your language represents. I was alarmed at the idea that your League might take My world away from Me.

"You were My only hope, Nathan. You were and still are My weapon. But I was premature in My choice of how to use you. There was so much that I did not understand."

She turned back to the buzzing thing. "I was so confused. I was suddenly in possession of a language infinitely more sophisticated than I had ever dreamed a language could be. Dreadful and enormous concepts crowded in on Me, upsetting ideas I had held for countless years. My horizons had to expand to include worlds circling other suns, to include illimitable islands of suns spiralling through the Night. The grandeur and terror of these new ideas blinded Me to the subtler aspects of your nature, the more refined implications of your sciences.

"I was terrified of the powers your peoples have at their command. I told Myself that I would have to make immediate use of Nathan if I hoped to take advantage of the opportunity he represented. I saw in his mind how important his testimony would be in your evaluation of Me. I

was awed at the value he placed on Betty because of his love for her. He seemed ready to challenge someone enormously his physical superior for her sake. I told Myself that if I could cause him to place a similar value on Me, his testimonial concerning Me would assure My world remaining solely Mine. So I gave him the sense of freedom which is so dear to him, which eludes him always within the confines of your ship. I gave him the sense of fellowship that his too intensive years of training in his younger days prevented him from realizing. Without his knowledge, I controlled the glands of the body he is occupying and caused him to associate these joys with Me.

"But as I recovered from the shock of My first contact with the range of concepts your language gave Me, I saw that I had been extremely simple in assuming that Nathan's testimony alone, colored with the irrationality of love, would weigh very heavily in your final judgement as to the colonizability of My world. I also realized that what I was causing Nathan to feel for Me was a product of the endocrinial system of the body he had borrowed. If he were restored to his own body, the proximity of Betty would invalidate all I was trying to accomplish. So he remains My sole

hope. I dare not let him go. I have to create psionic interference to keep you from reclaiming him. But I do not know how to use him now. We must work together toward a solution."

THERE was a long stillness beneath the golden sun of early morning. Expectancy was taut in the quiet air. At last Hillier rose to his feet. His eyes never left the woman of wonder. He said simply: "My way is clear before me."

He began: "The League abides by its laws. It tries to do what it feels to be right. But it also has its needs and its weaknesses. It needs worlds such as this. It would not lightly abandon an opportunity to colonize this world. In this regard it would be prejudiced against you from the beginning.

"The League would by-pass the issue of whether you are properly a sentient race or not. It would point out that at one time you were progressive and that by your own admission you have regressed. Do not think harshly of us because of this. We seek what is beneficial for ourselves even as you do. Think instead of how justified the League's point would be: we could not communicate with you at first because you had regressed so far that your original language had degenerated from

a true language—a tool permitting communication between distinct entities—into a monologue that could help you frame thoughts to yourself but which was useless for communicative purposes. You are incapable of genuine progress. You might advance after a fashion on the strength of the knowledge you have obtained from me, but you will not get far. Progress is possible only through the exchange of differing viewpoints. No matter how diversified you make your intellect, you, being one being, will still possess only one viewpoint. Competition with the League, which has trillions of viewpoints, is unthinkable.

"It is inevitable that the League will give this world a Colonizable status. It will deal with you kindly. It will set aside a fair share of this continent and make it irrevocably yours. It will in no way interfere with you. But the so much greater tool of thought that our language represents has expanded your horizons. Possibilities which, before, you were incapable of imagining are now open for your consideration. You will resent a subordinate status.

"Your cause as it now stands is hopeless. Nothing you can do to me will alter that fact. But there is something I cannot forget. You tried to find a solution to your problem that would cause

the least harm to me, your agent. In effect you were only attempting to persuade me to report favorably on you, when there was so much more that you could have done that would have accomplished your ends but would have meant my permanent psychic ruin. For this I am grateful. For this let me offer you hope. Let me offer you even more than hope. Let me tell you how you may become great."

The emotion etched across the woman of wonder's face defied naming. She said, "Tell me."

"It is simple. Relinquish your control."

SLOWLY the great golden sun edged toward forenoon. Heat shimmered in the valleys. The woman of wonder regarded him with eyes that were unreadable. "You do not know what you are saying," she said. "My multiple body is to Me what your hands and feet are to you. Suppose you could grant autonomy to your limbs. Would you?"

"Is the analogy fair?"

She took a long time to answer. "I cannot say."

"Would relinquishing control mean relinquishing your individuality?"

"No."

"Would it be worth relinquishing control to become purposive again?"

"What do you mean?"

"You as you now are represent an evolutionary dead-end. You had a purpose once but what you have developed into has negated all your former value. You are as ultimately beneficial to your kind as size and impregnability were ultimately beneficial to the dinosaurs of my ancestors' world. They found a static solution to static conditions and perished when conditions changed. Conditions have changed for you now. But you need not perish.

"Consider: what would it mean if within a culture some agency were aware of every viewpoint, could instantaneously correlate and integrate these viewpoints, could inform the individuals constituting the culture of the results of that correlation and integration? What if it had the power to inform researchers in advance whether or not their work was original? What if it could relate the facts involved in questions of justice? It would be a social lubricant beyond compare.

"You could be such an agency. Give autonomy back to your multiple body. Restore to it the status of a culture. Be its social lubricant. Be its Mediator. Teach it what you have learned from us. Help but do not dictate. Be a guiding beacon by which your race may seek its destiny. In the end your greatness may overshadow our League."

THE woman of wonder stood quiet and thoughtful in the forenoon light. Her eyes seemed to search Hillier's soul. "You have spoken the truth," she said. "But why? Why tell Me how to become greater than you?"

"It will not be you alone. It will be your whole race. My reasons are twofold and simple: Space is big. Sentience is precious."

"Can you explain?"

"My League has explored half a million suns. We have found only two dozen sentient races. Most are friendly; the remainder are neutral. There are billions of suns in this Galaxy. Who knows what potencies exist out there? Who knows how friendly or how hostile they will be? If friendly, what better proof of our own friendship can we offer than an interstellar community of diverse sentiences? If hostile, what better defense can we prepare than an united front?"

"By this you can see that your survival may someday be essential to the survival of my League. I have told you how you may survive. Do you accept the condition of your survival?"

The woman of wonder came to his side. To him she was still so beautiful that she caused a subtle pain far within. "I accept," she said. He sensed a gratitude in her too great for expression.

"Will you set me free?" he asked. "I will."

The buzzing thing said: "Be prepared for Transference."

He stood looking at the woman of wonder for a timeless moment in the golden sunlight. She took his hand in hers.

"Thank you, Nathan," she said.

A sudden urgency stabbed through him. "I . . ."

She silenced him with a quick finger placed across his lips. "Good-bye, Nathan."

He fell into darkness.

* * *

As the *Wotan's Beard* coursed across the Night that had no ending, he grew ever more conscious of a sense of loss. He was haunted in his dreams by smiles under a huge wild moon and an elfin voice, crying: *Together we shall weave a world of song!* In his waking hours he was conscious of the omnipresent constriction of walls of steel.

Deep in his soul he forgave her. *How could she have known that love is not entirely endocrinial?*

Whenever his pain became too great he went to Betty. The love that was in her gave her an almost sublime understanding. She could always blunt the sharp edge of his ache. But sometimes when she was by herself she wept a little because she knew she could never take it completely away.

THE END

the Pirokin Effect

By LARRY EISENBERG

The body of this article may disturb you. It will certainly challenge the set patterns of thought which most of us rely upon. You are about to encounter a set of facts leading to conclusions of so startling a nature, that the mind may boggle at comprehending them.

ON Friday the eleventh of July, 1962, Irving Pirokin, a ham radio operator working his twenty watt rig out of a restaurant kitchen on lower Second Ave., picked up a succession of unusual clicks while scanning the forty megacycle band. Mr. Pirokin's instinctive reaction was to take down these clicks as a message in International Morse Code, and the letters J T S A L appeared again and again on his note pad. Before Mr. Pirokin could pursue the matter, he was called out to his post as waiter by the owner of the restaurant, an impatient beefy faced gentleman with a foghorn voice.

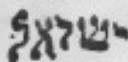
When his tour of duty had ended, Mr. Pirokin returned anxiously to his set and monitored the same band of frequencies with great care, but to his in-

tense disappointment, he could detect no signals. However, on the following (and successive) Fridays, he was able to receive the same repetitive series of clicks at about the same time of day. His curiosity piqued by this mystery, he wrote to his cousin, Sam Pirokin, in Philadelphia. Sam, by one of those great coincidences that enrich real life, is also a ham operator working his rig out of a kitchen where he too functions as a waiter. He was elated to find that he was also able to detect the clicks, almost identical in sequence to those his cousin Irving was receiving in New York.

Baffled but excited by the cryptic JTSAL, Sam, who was then in attendance at a night school in cryptography, showed the "message" to his instructor, Bertram Luftmensch, a man who

had steeped himself in the lore of code-cracking for the past twenty years. Although Mr. Luftmensch prepares a daily coded column for a local Philadelphia newspaper wherein the crossing out of certain letters reveals some advice for the reader, he nevertheless took time out of his demanding schedule to work on the problem posed by Sam Pirokin. Although Luftmensch tried every trick of the trade, he could not make sense out of the letter sequence, JTSAL.

AND thus the matter languished for several weeks, with Irving and Sam still receiving the clicks but unable to explain their meaning or origin. One Sunday morning, Mr. Luftmensch noticed that his son was using as a bookmark in his high school Hebrew grammar, the very sheet of paper on which he had worked over the J T S A L sequence. Opening the volume, Mr. Luftmensch took note of the Hebraic alphabet and with sudden inspiration decided to juxtapose the English Alphabet alongside the Hebrew.

Using this device, he found that the message JTSAL, read as LASTJ from right to left in the Hebrew manner, became in Hebrew characters,  (Israel).

With tremendous excitement, he communicated his findings to

Sam Pirokin who immediately put through a long distance call to a candy store in New York which promptly called down his cousin Irving. Irving was at first unbelieving, but when the import of the discovery penetrated his core of disbelief, he reacted with a first rate suggestion. Irving proposed that he and Sam employ directional antennae to attempt to localize the source of the signals.

Although the finances of these two men are generally unstable, relying as they do primarily on tips and the uncertain tempers of innately hostile diners, they each did manage to procure at considerable expense, a highly directional array of antennae able to focus a beam to within one or two degrees of arc. On the very next Friday, by means of crude triangulation, Sam and Irving determined that the origin of the clicks was not some Israeli source, (as they had expected), but appeared to come from a position in the sky, *roughly corresponding to the position of the planet, Mars.*

Irving was so unnerved by his discovery, that he could neither eat nor sleep for days. The weakness engendered by his regimen produced a purpose tremor in his right hand that made it hazardous for him to lower a plate of hot soup, and indeed resulted in the near scalding of a customer.

IT was obvious of course that for the first time a clear cut indication of the existence of sentient human life on Mars had come to the fore. But why was the message in Hebrew? Irving Pirokin decided to break the pact of secrecy which he and cousin Sam had tentatively entered into, and he showed the translated message to his brother-in-law, Ephraim Zeitz, now Dr. Zeitz, then a theological student specializing in the history of the Lost Tribes of Israel.

Zeitz poured himself into this project, using his time and resources without stint and finally came up with the theory, which with certain minor changes, is still considered the most likely explanation of the affair of the clicks.

"As is well known," writes Dr. Zeitz, "the image of 'a cloud by day and a pillar of fire by night', could well have represented a primitive atomically energized rocket. We know from the Old Testament how preoccupied the Israelites were with survival, inasmuch as the general evildoings of mankind had already led the Lord to the near annihilation of mankind by flood. It is quite logical, therefore, that a more advanced group of Israelites, the Lost Tribes, were not transported by Tiglathpilaser as is popularly supposed. By utilizing methods of locomotion involving

their atomic knowhow, they managed to breach the barrier of space travel and land on other planets, among them Mars."

Dr. Zeitz sent an elaboration of this position to the Pentagon, where a prematurely negative response was elicited. But when a field investigator verified the clicks at Irving Pirokin's receiver, the full machinery of the military was belatedly put into motion. Despite all attempts at keeping the story secret, it was broken to the press by a relative who received twenty five dollars for scoring a news beat for the metropolitan tabloid in question. It was in this way that the military missions of hostile powers first became apprised of the cryptic clicks.

IT soon became apparent that the only place where the mysterious signals could be detected was either at Sam's rig or at Irving's rig. But this phenomenon was easily explained by the vagaries of the layers of the Ionosphere, which often produce these apparent freaks of unique reception. More disturbing was the torrent of criticism which began to erupt in an attempt to demolish the hypothesis of Dr. Zeitz.

"Surely Mars cannot hold these Israelites," wrote one scholar. "The surface temperature of Mars is too high to sus-

tain life and the absence of CO₂ in the atmosphere would make the preparation of carbonated water, a staple in the ancient Hebrew diet, impossible."

"But," rebutted Dr. Zeitz, "it is this very lack of CO₂ in the atmosphere that proves my hypothesis. Carbon dioxide is rare on Mars because it is being collected and confined to vessels of carbonated beverage which are sealed."

In the interest of complete honesty, we must make mention of those German scholars who have raised the counter hypothesis which conjectures that the Hyksos were the space migratory group. Utilizing what little is known of the Hykso alphabet, they have decoded the message to read STREITWAGEN, the German word for chariot, the invention of which is commonly credited to the Hyksos.

The debate rages on and the military intelligence groups of both East and West are now engaged in exhaustive surveys of the Martian question. At the present writing, it is almost cer-

tain that the West is in the driver's seat, chiefly on the data furnished by the Pirokins.

And what of the Pirokins, themselves? They are both still hard at work on their old jobs.

"Even a scientist must eat," says Irving Pirokin.

But they are not lionized by their neighbors. Perhaps the familiarity of daily, intimate contact makes the breeding of contempt inevitable.

Max Flenner, a neighborhood haberdasher who is admittedly not on good terms with Irving since he was the recipient of the soup spilling incident, has the following to say:

"Irving was always weak in the head. Every Friday they chop liver in the back and he picks up the clicks."

We shook our head in doubt.

"That hardly accounts for the same signals being picked up by his cousin in Philadelphia."

Mr. Flenner raised his eyebrows in disdain.

"They don't chop liver in Philadelphia?"

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the **Sphinx**

By
ROBERT F. YOUNG
Illustrated by
SCHELLING

DANIEL HALL met the enemy in the blue skies of NRGC 984-D but it cannot be said that the enemy was his. Neither can it be said that he was the enemy's. In point of fact, about all that can be said about the encounter is that it never quite came off. One minute there were two trim scout ships, one Terran and the other Uvelian, arrowing toward each other, and the next minute there were two trim scout ships veering off at right angles to each other and dropping rapidly planetward. What happened to the Uvelian pilot will be touched upon later. Right now, the camera is focused on Daniel Hall.

He came down near the edge of a wide tableland and plowed a long furrow in a stretch of snow-white sand. The impact tore one of the viewscope brackets loose and sent it ricocheting from wall to wall. On the third ricochet it sideswiped Hall, ripping through both layers of his spacesuit and tearing open his left arm from elbow to shoulder. Still not satisfied, it struck the radio panel and smashed the transmitter. Then it gave up the ghost and dropped to the deck.

Hall hadn't meant to make such a hard landing. He hadn't meant to make any kind of a landing. An invisible force had seized the controls and torn the

ship out of the sky, and he hadn't been able to do a thing about it.

He tried the controls now. He tried them singly and in pairs. No matter how he tried them, they did not respond.

Next, he had a go at the radio. He knew even while he was beaming his S.O.S. that it would never get beyond the stratosphere and that all he would receive for his pains would be static. He was right. He turned the radio off.

Well anyway, NRGC 984-D had a reasonably amiable climate and a reasonably amiable atmosphere--his instruments told him that much. So he could stay alive for a little while at least.

Hall grinned. "A little while" was right. The Terran fleet's imminent engagement with the Uvelian wouldn't be postponed merely because an unimportant space scout who had been sent on ahead to determine whether or not the planet in whose vicinity the engagement was to take place had intelligent inhabitants, failed to report back. The assignment had been no more than a token gesture in the first place—a gesture that would sound good on the flagship's log-tape when the war was over. Whether NRGC 984-D had intelligent inhabitants or not, the commander of the Terran fleet would carry out his original orders, and if a planet-wide tectonic upheaval resulted from the side effects of the

battle—and only a miracle could avert such an eventuality—Terrankind would hold themselves no more responsible for it than they held themselves responsible for Carthage, Dresden, and Deimos.

ACCORDING to Terran intelligence reports, the resemblance between Terrans and Uvelians was cultural as well as physical; hence, the odds had it that the Uvelian pilot had been on a similar token assignment and that if he, too, had been ren-



dered helpless and incommunicado it would have a similar lack of effect on the commander of the Uvelian fleet. Anyway you looked at the situation NRGC 984-D was going to have to pay dearly for being in the wrong place at the wrong time—i.e., at a point in space equidistant from Earth and Uvel at the precise moment when the crucial battle of the

Earth-Uvel war was going to take place.

Hall's arm was beginning to throb, and waves of weakness were washing over him. Breaking out a first-aid pac, he sterilized the wound and dressed it. The bleeding stopped, but he still felt weak and he knew that he should rest. However, he couldn't bring himself to do so. For one thing, he knew that regardless of what he did he was doomed anyway, and for another, during his descent he had glimpsed a number of vaguely familiar structures in the distance. He hadn't been able to make them out clearly, but structures usually spelled intelligent beings, and he was eager to find out whether or not these structures were in keeping with the rule. It was silly of him, he supposed, to want to know what kind of beings, if any, he was going to share extinction with; but he wanted to know just the same.

So, after removing the cumbersome outer-section of his spacesuit and taking off his helmet, he opened the scout-ship's locks and stepped outside. NRGC 984 was well past meridian. Using it as a reference point, he oriented himself. To the north and to the east, the tableland dropped away into hazy foothills; far to the west, stalwart snow-crowned mountains rose sheerly into the sky. The structures

which he had glimpsed lay to the south. There were four of them altogether, and three of them were pyramidal in shape. The fourth stood a little to the east of the others and was radically different from them. It looked like—it looked like—

Hall squinted his eyes against the glare of the sunlight. If he hadn't known that such a thing was impossible, he would have sworn that the fourth structure was a sphinx.

NRGC 984 was a KO star. However, if the rays which were raining down upon the tableland were a dependable criterion, it wasn't very far from attaining GO-hood. Hall felt dehydrated before he had gone half a mile. By the time a mile lay behind him, he was ready to drop.

He wet his mouth repeatedly from the vacuum-container of ship's water which he had brought along, each time swallowing as much of the icy contents as he dared. He could see the pyramidal structures quite clearly now—clearly enough to know that in mentally referring to them as "pyramidal structures" instead of as "pyramids" he was only kidding himself. He could see the fourth structure quite clearly, too—clearly enough to know that in the strict sense of the word it wasn't a structure, but a huge statue, and to know

that whether such a thing were possible or not, the statue was a statue of a sphinx.

As he progressed, reeling now and then from the heat and from his increasing weakness, he began to wonder whether he had somehow been catapulted back through space to Egypt—to the plateau of Gizeh, upon which the Great Sphinx Harmachis guarded the Great Pyramids of Cheops, Chephren, and Mykerinos, and at whose base the Terran capital of Kafr el Haram stood. And as he progressed still farther he began to wonder whether he had somehow been catapulted back through space and time to the Egypt of over five thousand years ago when the Great Pyramids and the Great Sphinx were new; for *these* pyramids and *this* sphinx were new—make no mistake about it. The pyramids looked as though they had been built yesterday, and as for the sphinx, its excellent condition lent it a realism so remarkable that Hall momentarily expected to see it rise up on its columnar legs and come thundering over the tableland to welcome him—

Or to annihilate him.

There was a third possibility, of course, and on the surface it made more sense than the other two: maybe his growing weakness and the merciless rays of the sun had combined forces and were causing him to hallucinate.

But if he was hallucinating, why hadn't he chosen a subject more in keeping with his character? Specifically, why hadn't he projected an image of a garish street lined with nepenthe nooks and fun bars, or an image of a blue mountain lake with a shack on its wooded shore and a canoe drawn up on its beach ready to take him gliding over the cool and limpid waters? Like many adventurers, Hall pursued both solitude and sin and found peace in neither; but they were at least a part of his makeup, and Egyptology was not. He had visited the plateau of Gizeh and seen the Great Pyramids and the Great Sphinx, and he had read about Cheops, Chephren, and Mykerinos in Herodotus' *History*; but the pharaohs and their sepulchers and their monuments were relatively unimportant items in the synthesis of real and vicarious experiences that constituted his character, and it was highly unlikely that he would be "seeing" a sphinx and three pyramids now.

HE decided that the best way to find out whether or not he was imagining them would be to try to walk right through them, and with this in mind he forced himself to go on, even though he knew that he would do better to return to his ship and forget about the whole thing.

Gradually, the pyramids took on greater detail, particularly the largest of the trio. It stood in the foreground, and several hundred yards to the east of it stood the Sphinx. The Gizeh sphinx measured in the neighborhood of 189 feet in length, 70 in height, and 30 from forehead to chin. If anything, this one exceeded those dimensions. Lord, suppose it were to stand up, Hall thought. Why, it would tower almost a hundred feet above the ground!

Had the Sphinx read his mind? It would seem so. At any rate, the huge head had turned and the great golden eyes were fixed upon his face. As he watched in disbelieving fascination, it stood erect on its four legs and regarded him contemplatively across the half a hundred yards of tableland that separated them.

Everything caught up to Hall then—his weakness, the rays of NRGC 984, the heat rising from the white sand, the doubts that had been multiplying in his mind ever since he had participated in the destruction of the Deimos Dissenters—and he sagged to the ground. The ground, he discovered presently, was trembling. Well it might. The creature walking over it probably weighed several thousand tons.

He felt the coolness of shade. Looking up, he saw the massive humanoid face looming above

him, the great golden eyes gazing down into his own. Slowly, the huge head began to lower; relentlessly, the gigantic jaws began to open. Belatedly, Hall tried to draw his laser pistol, only to discover that he no longer had charge of his right arm. He retreated way back into his mind then, found a deep dark cave, crawled into it, and closed his eyes.

Cheops' Daughter

WHEREVER else he might be, Hall decided some time later, he was no longer in the cave. Nor was he, apparently, in the belly of the Sphinx. There was the softness of eiderdown beneath his back and a pleasant perfume upon his nostrils. He was completely relaxed and the throbbing in his arm had died away. Feeling fingers lightly touch his forehead, he opened his eyes.

There was a girl standing over him. Her face was narrow, the forehead high and rounded, the nose high-bridged and slender, the chin somewhat pointed. She had night-black hair, and her head was fitted with a ridiculous headdress that flared up into a flat crown. She was slim, but startlingly well-developed, and she was wearing a tight fitting halter and a tight-fitting knee-length skirt. The headdress, the halter, and the skirt were golden

in color, and, peering over the edge of the padded platform on which he lay, Hall saw that webbed sandals of similar hue encased her small feet. Her skin was the color of olives.

Despite her unusual attire and her equally unusual development, plus a queenly hauteur that somehow went well with both, her eyes still managed to be the most remarkable items in her feminine inventory. They were almond-shaped, slightly slanted, golden brown, and preternaturally large. In addition, there was a liquid quality about them that came close to devastating the defenses which Hall made haste to throw up around himself.

Well anyway, she made as much sense as the pyramids and the Sphinx did, he thought resignedly. As a matter of fact, she seemed to belong in such a setting. "I suppose you're going to tell me your name is 'Cleopatra,'" he said, even though he knew that the all-purpose English words were bound to be Greek to her.

She had withdrawn her hand from his forehead and had stepped back from the platform the minute he opened his eyes. But she hadn't been in the least disconcerted, nor was she in the least disconcerted now. "Behold, I have dressed thy wound," she said. "Is it not enough that a Pharaoh's daughter should have

thus demeaned herself without her having to demean herself still further by giving thee her name?" Suddenly puzzlement crinkled her forehead, and she looked intently at his smartly-tailored inner spacesuit. Actually, in combination with his snappy black spaceboots it constituted as sharp an outfit as the Terran Space Navy had ever come up with, but she certainly didn't seem to think so. "Where didst thou learn to speak the language of Egypt, slave from a far land?" she asked.

CLEARLY, NRGC 984-D was a planet of surprises, and by this time Hall should have been sufficiently acclimated to have enabled him to take each new development in his stride. He was not, though—not quite—and for a while he just lay there gaping at the girl. Then he propped himself up on one elbow, noting as he did so that she had indeed dressed his wound and noting simultaneously that in the process she had somehow eliminated its soreness and brought about at least a partial return of his strength. She had also, he reminded himself quickly, called him a slave. He said snidely, "I guess you might say that I learned to speak Egyptian in the same place you learned to speak APE."

She blinked, and it was obvious

from the blank look she gave him that she had missed his point completely. He had the feeling that she was just dying to put him in his place with a few well-chosen epithets but that she wasn't quite sure enough of herself to risk doing so. "Great indeed must be my disfavor in the eyes of Amen-Ra," she said presently, "for me to have been afflicted by such circumstances and by such company."

Hall sat up on the platform, which, he saw now, was a bed of some kind. The room in which it stood was on the small side, and surprisingly pleasant. The ceilings and the walls had been carved out of pink granite, and the illumination was provided by candles burning in niches that looked a lot like light-fixtures. Besides the bed, there were two marble benches, a marble table, and a slender diorite pedestal supporting a shallow diorite bowl that looked like a bird bath but which was probably a stone brazier. In the wall opposite the one against which the bed stood, a tapestry-hung doorway gave access to another room. The tapestry was heavily decorated with tiny humanoid figures with cow-like heads.

Hall had a hunch that he was inside the largest of the three pyramids—an upsetting enough possibility in itself without having a pharaoh's daughter to con-

tend with too. "Which pharaoh are you the daughter of?" he asked.

She drew herself up as straight as could be and looked at him as though he were a chunk of mud that had just dropped from a chariot wheel. Nevertheless, the hauteur in her voice did not ring true, and he was certain that he detected a note of shame. "His Majesty King Khufu the blessed, slave! Dost thou dare profess ignorance of his reign?"

Khufu, he thought. That would be old Chepos himself. Which meant that the girl standing before him was in the neighborhood of fifty-two hundred years old. He sighed. "Well anyway, you dress a mean dressing," he said.

She just looked at him.

He regarded her shrewdly. "I take it we're in the neighborhood of Memphis," he said presently, "and that this pyramid we're in is the one your father took twenty years to build."

For the first time the underlying uncertainty which he had sensed in her from the start rose to the surface. Instead of bringing to mind a princess, she now brought to mind a little girl who had strayed out of her own back yard and become hopelessly lost in the next. "I—I know that what thou sayest must be true," she said, "but I know also that it cannot be true. Only the first mastuba of my father's

sepulcher has been built, and it is to be the first sepulcher of its kind, yet here there are three of them, and each has been completed. I—I do not understand wherefore I am in this place, nor wherefore I am alone."

"But surely you must know how you got here."

SHE shook her head. "Behold, two nights ago I was sitting in the—" She paused, took a deep breath, and began all over again. "Behold, two nights ago I lay me to sleep, and when Amen-Ra climbed upon his throne the morning after, here I lay in this strange place in this strange land. I do not know what to do."

She looked as though she were going to cry. Hall would have felt sorry for her if the memory of her arrogance hadn't still been fresh in his mind. He didn't think much of people who went around calling other people slaves. Another reason he didn't feel sorry for her was that he couldn't bring himself to believe that she was on the level. How could she possibly be Cheops' daughter?

All right, who *could* she be then? A Uvelian Mata Hari? Nonsense! A Uvelian Mata Hari might try to pass herself off as a lot of things, but unless she was hopelessly out of her mind she would never try to pass herself off as an Egyptian princess who had been dead for more than five

millennia. Besides, what would a Uvelian spy be doing on a planet which, other than on an abstract level, neither the Terran nor the Uvelian empires had ever heard about until a few days ago and which they wouldn't have heard about even then if it hadn't been for the fact that NRGC 984-D was going to be occupying almost the same point in space as that which the major Uvelian and Terran forces, which were ineluctably drawing closer and closer together, would be occupying when they met in the crucial battle of the hundred-year galactic war—in the ultimate Armageddon that would decide whether the Uvelian demosocialistic ideology or the Terran socio-cromatic ideology was to endure?

"Tell me," Hall said presently, "is there really a monster the size of a young mountain hanging around these parts, or did I just imagine there was?"

He expected the question to disconcert her. It didn't in the least. "Oh yes," she said, as calmly as though a sphinx were no more awe-inspiring than a common alley cat, "She-who-builds-sepulchers is still with me. I feared at first that she, too, had deserted me, but she had not. But as she will not communicate with me I have been unable to learn wherefore she interrupted her labors in my father's behalf to, build these sepulchers in this

strange land, or for whom she built them."

A pyramid-building sphinx was all Hall needed. Lord knew, the girl's story had been incredible enough before, but now it was fantastic. Sliding down from the platform-bed to the floor and noting to his satisfaction that his laser pistol was still in its holster at his hip, he said, "I can see that if I'm going to find out anything around here I'm going to have to find it out for myself. So if you'll climb down off that high horse of yours long enough to tell me how to get out of this rock pile, Miss Whoever-you-are, I won't bother you any more!"

The girl gasped. She stamped her right foot. She stamped her left. She clenched her hands. "Hast thou the effrontery to imply that the noble daughter of His Majesty King Khufu the blessed is guilty of a falsehood, slave!"

Hall put his hands on his hips. "A falsehood! Why you've been lying your head off."

He would have said more if tears hadn't come into her golden brown eyes. Turning, she pointed toward the doorway. "Beyond that portal thou wilt find another, slave," she said, "and beyond the second portal, yet another. Then thou wilt find thyself in the passage that leads to the portico. Go!"

Hall went.

AS he left the room, it occurred to him that he had forgotten to ask her how he happened to be inside the pyramid in the first place. It was just as well. She would only have told him another fib.

How did he happen to be inside it then?

Probably, after his sphinx hallucination, he had crawled the rest of the distance to his objective and the girl had found him and taken him in tow. For all he knew, she could every well have saved his life. He wished now that he hadn't been quite so rude to her.

As nearly as he could ascertain, the room that adjoined the one he had just left was a living room. It contained elaborately upholstered settees and chairs, and there were cushions scattered over the thickly carpeted floor. The next room was unquestionably a cooking room. Floor-to-ceiling shelves were lined with earthenware pots, and there was a brick oven large enough to roast an elephant in. In addition to the oven, there was a brazier-like affair on which less pachydermatous dishes could be prepared.

Passing through the third doorway, he found himself, not in the passage which the girl had mentioned, but in a spacious court. Stone columns gave the ill-

lusion of supporting the ceiling, and at the top of each, just beneath the capital, was the bas relief of a cow-like face. Elaborate horns rising from the stone foreheads blended with the capitals and supplied their motifs. It finally dawned on Hall who this cow-like being was. It was Hathor, the Egyptian goddess of love.

He crossed the court without further delay and stepped through a wide doorway into a long corridor. At the end of the corridor, a dark, star-spangled rectangle showed. He made track for it, rejoicing in the cool night air that presently reached his nostrils. Obviously he had been unconscious longer than he had thought.

He could hardly wait to see the stars. He knew perfectly well that he couldn't possibly be in ancient Egypt, that there was another, far more practical, explanation for the presence of the Sphinx and the pyramids and the olive-skinned girl, but just the same it would be good to know for sure. The stars would tell him. Stars did not lie.

Stepping out of the passage, he looked up at them. The structure behind him and the roof of the portico had half of the heavens, but the half that was visible contained not a single familiar constellation. He gave a sigh of relief. A moment later, he won-

dered why. Wouldn't he be better off if he *were* in ancient Egypt? There, at least, he would have a chance to live out the rest of his natural life. Here, he would be dead before morning.

The portico was wide and lofty. Four columns, larger but similar in all other respects to the columns he had seen in the court, stood in a row along the marble apron, supporting the roof. Between the two center ones a short flight of wide marble steps descended to the ground. He crossed the apron and went down them.

ALL was silence. Above his head, a constellation suggestive of a huge crocodile sprawled across the heavens. The white sands of the tableland caught the starlight and shattered it into infinitesimal particles, and the particles glistened softly for miles around, seeming to emit a radiance of their own. Behind him, the Great Pyramid—he still thought of it as the "Great Pyramid" even though he knew that it wasn't—rose geometrically up into an apex that was nearly 500 feet above the ground. To his left, the lesser pyramids stood, and to his right crouched the Sphinx.

Despite himself, he was struck by her beauty—awed, almost. She had a silvery cast in the starlight. Her flanks rose up like smooth escarpments to the mag-

nificent ridge of her back. Her noble head hid half a hundred stars. The cliff of her classic profile was a splended silhouette against the sky.

Hall walked toward her in the starlight. He had been impressed by the Great Sphinx of the Gizeh Necropolis. Even in its state of disrepair there was a mysterious quality about it that he had found appealing, a massive grace that had intrigued him. But compared to *this* sphinx the one of the Gizeh Necropolis was nothing more than a crudely sculptured rocky promontory reinforced with masonry. Stone was all it had ever been and stone was all it could ever be. *This* sphinx was art apotheosized. No wonder in his dazed and weakened state of a few hours ago he had invested her with life. Even now, thinking clearly again, he felt that at any moment she would rise and walk beneath the stars.

What had happened to the race of people who had sculptured her? Hall wondered. To the race of people who had built the three pyramids over which she was standing guard? Did that same race of people have something to do with the building of the Egyptian pyramids? Did—

Nothing happened to the race of people who built the pyramids, Daniel Hall. And nothing is going to happen to them if they can help it.

As the words formed themselves in his mind he saw that the Brobdingnagian head was turning toward him. Simultaneously he realized that, far from being inanimate, the massive leonine body was rampant with life. At length, the mysterious eyes met his and regarded him like a pair of intelligent golden suns. He stood stark still in the starlight, a statue now himself.

In the final analysis there was no reason why a sphinx couldn't be alive. Statues were sculptured of men, too, but this did not mean that men were made of stone.

Even the poor Egyptian child who dressed your wound in the Temple of Hathor is less anthropocentric than you are, Daniel Hall. She realized I was alive the moment she saw me. And yet you allowed yourself to know resentment simply because her thought world ruled out the possibility of your being her equal, thereby forcing her to think of you as a slave. For shame, Daniel Hall!

"And now what happens?" Hall asked, half in cynicism, half in fear. "Are you going to devour me?"

There, your anthropocentric nature is influencing you again! You think that merely because a being is larger than you are it must be evil. And the larger it is, the more evil it becomes in your mind, and the more partial to hu-

man flesh. No, I'm not going to devour you, Daniel Hall—it is you and your kind who are going to devour me and my sisters. That is, you would be going to devour us if we hadn't taken the necessary steps to prevent you from doing so, although the possibility exists that you may still succeed. You are on the verge of devouring us, not because you want to at the moment, but because you haven't bothered to find out whether or not we exist.

THAT'S not true!" Hall objected. "I was sent here myself to find out!"

And so was one of the members of the Uvelian forces. But even if either or both of you were able to report your respective findings to your respective headquarters the battle would still take place, and you know it. Incidentally, it's unnecessary for you to speak, to say nothing of shout. I can receive thoughts as well as send them.

It was you who seized our controls then—who—who caused us to crash.

It was I who seized your controls and caused you to crash, Daniel Hall. My sister in the neighboring demesne took care of your opponent. If our project is successful, we will need both of you. However, although I caused you to crash, Daniel Hall, I had no intention of causing you

bodily injury. Small details are beyond the scope of our telekinesis. But I see that thanks to the skillful ministrations of Ahura you've fully recovered.

Ahura?

The little Egyptian princess whom you were so rude to a few minutes ago in the Temple of Hathor.

She's no more of an Egyptian princess than you are! Hall "said". Egypt was consolidated with the Union of Terran States over a hundred years ago when the capital was built at Kafr el Haram, and couldn't recognize a princess even if she wanted to. Egyptian princesses were out of style long before that time anyway.

But millennia ago, they were not. Ahura wasn't lying to you—she really is Cheops' daughter.

But don't you see?—that's more incredible yet! Cheops' daughter has been dead for over five thousand years!

No, said the Sphinx, Cheops' daughter is very much alive. However, until yesterday she had been unaware of the fact for quite some time. Not long after I arrived on your planet some fifty-two hundred of your years ago and instituted the project my sisters and I had agreed upon, it came to my attention that in his zeal to see his sepulcher erected Cheops had placed her in the stews. Since I had told him that

if he would put all of the resources of his kingdom at my disposal the first pyramid would be his, I felt responsible for his action; and, as I had intended to take back someone like Ahura anyway, I stole her from the stews, placed her in suspended animation, built a special capsule for her, and had one of my sisters come and get her. She was then entombed in a special vault on Pornos—NRGC 984-D to you, Daniel Hall—until such time as I should have need of her. Two days ago I brought her here, dressed her in clothing similar to what she was accustomed to, placed her in the Temple of Hathor, and revived her. Ahura is not her real name, incidentally. She thinks of her ordeal in the stews as having happened only a few days ago and has unconsciously taken the first step toward creating a new identity. I interceded in time, but the experience left its mark just the same.

DROWNING, Hall grabbed for the first straw he saw. But according to Herodotus, she stayed in the stews for a long time, and also according to Herodotus, she made each of the patrons pay off with a building block for a small pyramid which she later built in front of her father's.

Come now, Daniel Hall, you

aren't even convinced of that yourself. You simultaneously think of Herodotus as the "Father of History" and as the "Father of Lies". However, as his Egyptian history can't possibly be anything more than recorded



hearsay, he can't have been deliberately lying in this case. Probably he merely repeated the myths which the generations that followed the fourth dynasty dreamed up to supplement their knowledge of Cheops, Chephren,

and Mykerinos. In any event, what he wrote about Ahura is untrue.

Hall had already forgotten Ahura. You said you arrived on Earth fifty-two hundred years ago. That means you're over five thousand years old!

Right, said the Sphinx. Even older if you count my incubation period, which you really should in view of the fact that members of my race mature before they even see the light off day. Altogether, we have a longevity of some fifteen thousand years—your years, that is. So you see, I've still got quite a few to go—or will have if the preventive measures my sisters and I have taken succeed in averting the Armageddon which the Terran and Uvelian space navies are so determined to bring off in our skies. Her golden eyes traversed the heavens, returned to Hall. No Pleiades yet, I see. Well, there will be soon. Incidentally, I stole the expression from your mind, Daniel Hall.

"Pleiades" was the term used by ground observers to describe a space fleet in planetary orbit. But at the moment Hall was concerned with more important matters than Terran war terminology. You and your sisters—you're parthenogenetic, aren't you? he said.

Right again, Daniel Hall.

And does each of your sisters

have a set of pyramids like these?

Not all of them, no—only those who have need for them at the moment.

Who built them for you?

We built them ourselves—not as a team, but as individuals. I myself built the set at Gizeh.

Come off it! Hall said. How could you build a pyramid.

I have spread my left forefoot. Look at it, Daniel Hall, and tell me what you see.

Hall looked. I—I see, he said a long time later, a set of five powerful appendages. Two of them—the ones which correspond to my thumb and forefinger—appear to be some manner of gripping tools. The next one appears to be a stone-cutting tool, and the last two appear to be tools that can be adapted for almost any kind of work.

Good. Basically, my sisters and I are equipped for quarrying and building, but through the ages our race extended its abilities to encompass innumerable other fields. The stone used in the set of pyramids behind you, I quarried in the mountains that form the western boundary of my dhen—or demesne; hence, transportation was no problem. Owing to the distribution of our dhens, it rarely is on our planet. However, the stone used in the Gizeh pyramids in many instances had to be quarried in neighboring

countries; hence, transportation was a problem, and I had to enlist the aid of the reigning pharaohs. It's doubtful whether I could have succeeded without their co-operation in any case. The job took almost one hundred and fifty of their years—practically the whole of the fourth dynasty. It needn't have taken that long, but the timing had to be perfect, and besides, I wanted it to look as though mankind alone were responsible for it. The first pyramid became Cheops', the next, Chephren's, and the last, Mykerinos'.

But why did you build them on Earth?

My sisters and I have the ability to look into the future. It's a limited ability and functions only when we're enjoying complete freedom from fear and worry, but when we do foresee, we foresee quite well. Some fifty-two hundred of your years ago, Daniel Hall, one of my sisters foresaw the converging of the Terran and Uvelian fleets off Pornos and realized that our planet couldn't possibly survive the side effects of the battle that was bound to take place. She also foresaw the appearance of your scout ship and the almost simultaneous appearance of the Uvelian's. In keeping with our custom she convened an emergency council, and the situation was examined in de-

tail. Finally the only possible solution was arrived at, and two of us were chosen, one to go to Earth and one to go to Uvel, there to take the necessary steps to save our civilization. I was the one who was chosen to go to Earth, and my sister in the neighboring dhen was the one who was chosen to go to Uvel. The strategic location of our dhens with respect to the predicted appearance of you and the Uvelian scout was partially responsible for the decision.

Well you certainly put a stop to our hostilities in a hurry. How about the battle between the two fleets? Won't that come off either?

We hope it won't. In any case, all that could have been done to avert it has been done—short of stooping to genocide and short of prematurely interfering with the natural evolution of two civilizations.

But surely if this sister of yours could look fifty-two hundred years ahead one of the rest of you ought to have been able to look a little beyond that point and have found out whether or not you're going to succeed!

I told you, Daniel Hall, that we're capable of prescience only when we're enjoying complete freedom from fear and worry. We haven't been free from either for those same fifty-two hundred years.

Hall was "silent" for some time. Then, I'll overlook for the moment how a being of your size without any apparent means of space-travel could have journeyed from here to Earth, he said, and I'll also overlook for the moment how your presence on our planet escaped being recorded in our history other than in legend form. But will you please explain to me how you expected to avert a battle in the vicinity of your own planet by building pyramids on another planet thousands of years before the battle was to begin?

Two other planets, Daniel Hall. While I was building the set on Earth, my sister in the neighboring dhen was building a corresponding set on Uvel.

All right, two other planets then. But that still doesn't answer my question. Does the shape and the size and the location of the Gizeh pyramids have anything to do with it? I mean, could they possibly be a focal point for some kind of fourth-dimensional weapon?

THE Sphinx laughed thunderously. The shape and the size and the location of the pyramids have a great deal to do with it, Daniel Hall—but not in the way you suggest. The riddle will become clear to you before the night is over, I'm sure. The other two items that puzzle you may

not, however, so I will clear them up for you now.

My sisters and I navigate space by teleporting ourselves through it. We do this by utilizing a paraspacial energy-source which can be employed only when interstellar distances are involved. However, we can't teleport ourselves from point A to point B unless the cosmic variables pertinent to the two points are in appropriate relationship, and this severely limits our activities. And when the need arises, as it did in the case in question, for one of us to teleport herself from point A to point B and another of us to teleport herself from point A to point C within a single teleportative period, the cosmic variables are doubly limiting. Fifty-two hundred of your years ago, the cosmic variables with respect to Pornos-Earth and Pornos-Uvel limited us to a period of three hundred years. Following this three-hundred year teleportative period was a twelve-hundred year non-teleportative period, which in turn was followed by another three-hundred year teleportative period, and so on. Ideally, one of the three-hundred year teleportative periods should have partially coincided with the three centuries immediately preceding the battle we wished to avert; practically, however, none of them did, and as a result we had

to pursue an indirect course in averting our planet's accidental annihilation. Fortunately, the first three-hundred year teleportative period proved feasible for the plan which we presently devised.

With respect to the second point that puzzles you, Daniel Hall, the reason my presence on your planet failed to find an authentic place for itself in your history books was that I took the necessary action to make sure that it didn't. My sisters and I simply couldn't allow you to know enough about us to take us seriously because if you had you might have guessed our secret, and that would have meant the end of our plan—not to mention the end of us. So before I left your planet I wiped all memory of my activities from the minds of men. This automatically gave Cheops, Chephren, and Mykerinos exclusive credit for the building of the three pyramids at Gizeh. However, memory eradication is only ninety-five percent effective, and while the pharaohs and the priests and the slaves and everybody else forgot about my activities they didn't quite forget about me. I suspected as much but I wasn't sure until this afternoon when I read your mind while I was carrying you to Ahura. Fortunately, their memory of me was ambiguous at best, and although they associated me

with the Gizeh pyramids it simply didn't occur to them that I might have built them. So they adapted me to their religious needs of the moment and sculptured a statue of me in the Gizeh Necropolis, identifying me with the Harmachis version of their sun-god, Amen-Ra. Their other "sphinxes", as you call them, can undoubtedly be traced to me also, and the non-Gizeh pyramids with which Egypt abounds were undoubtedly modeled after mine, although before the reign of Cheops an architect named Imhotep had devised a "step pyramid" that may very well have resulted in similar structures. As for the non-Egyptian pyramids and "sphinxes" which are scattered over your planet, some of them can be traced to me also, but I daresay that in most cases they have religio-socio backgrounds of their own. In any event, the only pyramids I built on Earth are the ones on the Gizeh plateau. My sister, you see, foresaw not only the Terran-Uvelian Armageddon but also the future sites of the Terran and Uvelian capitals.

And your other sister, Hall said. The one who went to Uvel when you went to Earth. You say she built a set of pyramids too?

Exactly like my Gizeh set. In addition to looking and acting alike, Terrans and Uvelians have almost parallel pasts. In a general sense of course.



THE Sphinx had turned her head and was looking at a region of the heavens just above the eastern horizon. Following her gaze, Hall saw the first group of Pleiades rising into the sky. The distance was such that only the dreadnoughts attained the status of "stars". The thousands of smaller craft were invisible.

He counted six bright points of light, but the number told him nothing. Both the Terran and Uvelian fleets had six major vessels. Facing west, he was not surprised to see the second six climbing slowly above the mountains. *Looks like we're going to get a good view of the proceedings anyway*, he said. *Just the same, I wish they were meeting above the dayside. That way, we might stand a chance.*

Not enough of a one to worry about . . . You don't even know which fleet is yours, do you, Daniel Hall?

*I'm better off not knowing. Yes, I suppose you are. The Sphinx was "silent" for a moment. Then, *Don't you think it would be a good idea if you went to Ahura and lent her one of your broad shoulders to lean on?* she asked. *She's going to need it. There's no terror that can compare to the fear of the unknown.**

Hall was annoyed. *Surely you could have briefed her on what's coming off!*

Again, the Sphinx laughed. *Tell me, Daniel Hall, how do you explain a battle between two huge space navies to a child who visualizes the creation of the universe as a trio of anthropomorphic deities in the midst of a fantastic hand-balancing act? As Shu the air supporting his sister, Nut the sky, with their brother, Keb the Earth, lying beneath them. I did well in the little time I had since reviving her to supplant her native tongue with yours.*

I see your point, Hall said. Nevertheless, it can be done.

And it will be done. But not in hours, Daniel Hall, nor in days nor weeks nor months, and not by me, but by you. Ahura has an excellent mind, and given time she can learn all you can teach her, and then some. And with the aid of the special textbooks and other teaching aids contained in the first step of the smallest pyramid there's no limit to what you

can teach her—nor to what you can teach yourself.

Wait a minute, Hall objected. Even assuming I decide to cooperate in this project of yours, how am I going to make use of textbooks I can't read and that are probably too big for me to open?

The textbooks are printed in APE and are no larger than those you are accustomed to. My sisters and I have had thousands of years to prepare for this crucial point in our history, Daniel Hall, and we've prepared for it well. However, at this juncture it's futile to discuss what you are or aren't going to do. The battle hasn't been averted yet, and there's a good chance that it may not be. If it is averted, come to me afterward. In the meantime, go to Ahura. You can take shelter in the Temple of Hathor if you wish, but I guess you know as well as I do that without a system of deflectors to protect you the death rays of either fleet can reach you regardless of where you are.

Hall looked up into the mysterious golden eyes. Was there sadness there? Concern? He could not tell. And if the battle isn't averted?

Then this is good by. I have enjoyed knowing you, Daniel Hall. Basically, your race and mine are very much alike. Certainly, we share the same major

character trait, and moreover we share it in common with the Uvelians. It's only in the matter of terminology that we differ. My sisters and I call the trait "selfishness", and your race and the Uvelian call it "patriotism". It's right for a man to love his country, but he should never forget that his country is only an extension of himself and that the intensity of his love for it is an infallible index of the intensity of his love for himself. We can't change the way we are, but it helps the cause of reason if we face the truth. Go now, Daniel Hall—Ahura awaits you.

Ahura's Tale

A HURA was sitting on the bottom portico step. Hall sat down beside her. "Behold, I am here," he said.

She said, "Behold, I am aware of it."

Her almond eyes were fixed on the eastern Pleiades, which by now were quite high above the horizon. In the starlight, her classic face had a statuesque quality about it. At length, she lowered her gaze to his face. "I will prepare thee food if thou wish."

"Later on—I'm not hungry right now."

"I did not make thee the offer out of my heart. I made it because She-who-builds-sepulchers

desired me to do this for you."

"That's all right," Hall said easily. "You probably can't even boil water anyway."

She looked at him. "Thou speakest in riddles, slave."

"The name is 'Daniel,'" Hall said, "and you'll do well to call me by it. A cog in one of the wheels of the Terran war machine I may be, but a slave I am not."

"Dan'el?"

"That's pretty close."

"I am 'Ahura'—as no doubt She-who-builds-sepulchers hath told thee."

"Among other things. Incidentally, I've got a hunch she's tuned in on us now."

"She-who-builds-sepulchers is all-knowing," Ahura said. And then, "With thy strange garments and thy uncouth ways, from what far land dost thou come, Dan'el?"

"From a land you've never heard of, so the less said about it, the better." Noting that she had returned her gaze to the eastern Pleiades, he pointed to the sky above the mountains. "There's another swarm of them over there," he said.

She nodded. "I know. But the sky hath donned a strange dress. It is even stranger than the dress she wore last night." Ahura raised her eyes to the crocodile constellation within whose confines, if the present trajectories

of the two fleets remained unchanged, the encounter would take place. "Behold, Sebek hath left the river bottom and now rules the world. All is not well, Dan'el."

Hall remembered then that the ancient Egyptians had numbered a crocodile god among their many deities. Lowering his eyes, he saw that the girl's hands were tightly clasped together on her lap, and he realized that despite her deceptively calm demeanor she was terrified. Apparently in her primitive way she knew as well as he did that the hand of death was in the sky.

He tried to reassure her. "Sebek will be gone before morning, and Amen-Ra will rise in his glory. Relax, Ahura."

She shook her head. "All is not well, Dan'el," she repeated. "It is not the presence of Sebek alone from which I know this. All day, a tale about a prince which was told to me as a child hath been on my mind and I cannot drive it away, and from this, too, I know that all is not well."

"The best way to get something off your mind is to tell it to someone, so why not tell the tale to me?"

SHE looked at him solemnly, as though trying to make up her mind. It dawned on him all of a sudden that in a way he had never quite figured on she was

the most beautiful girl he had ever seen. "Very well," she said presently, "I will tell thee. There was once a king to whom no son was born; and his heart was grieved, and he prayed for himself unto the gods around him for a child. They decreed that one should be born to him. And his wife, after her time was fulfilled, brought forth a son. Then came the Hathors to decree for him a destiny; they said, 'His death is to be by the crocodile, or by the serpent, or by the dog.' Then his Majesty's heart sickened very greatly. And his Majesty caused a house to be built upon the desert; it was furnished with people and with all good things of the royal house, that the child should not go abroad. And when the child was grown, he went up upon the roof, and he saw a dog; it was following a man who was walking on the road. He spoke to his page, who was with him, 'What is this that walks behind the man?' The page answered him, 'This is a dog.' The child said to him, 'Let there be brought to me one like it.' The page went to repeat it to his Majesty. And his Majesty said, 'Let there be brought to him a little pet dog, lest his heart be sad.' And behold they brought him a dog."

"You see the significance there don't you?" Hall interrupted. "By being indulgent in the seem-

ingly most harmless aspect of his son's destiny, the father made him all the more vulnerable to the other two."

There was wonderment in Ahura's golden brown eyes as they touched his. "Thou art wise, Dan'el," she said. "I am sorry I called thee a slave. When the child became grown in all his limbs," she went on, "he sent a message to his father saying, 'Come, wherefore am I kept here? Inasmuch as I am fated to three evil fates, let me follow my desire.' They agreed to all he said, and gave him all sorts of arms, and also his dog to follow him, and they took him to the east country, and said to him, 'Behold, go thou whither thou wilt.' His dog was with him, and he went northward, following his heart in the desert, while he lived on all the best of the game of the desert. He went to the chief of Naharaina.

"And behold there had not been any born to the chief of Naharaina, except one daughter. Behold, there had been built for her a house; its seventy windows were seventy cubits from the ground. And the chief had caused to be brought all the sons of the chiefs of the land, and had said to them, 'He who reaches the window of my daughter, she shall be to him for a wife.'

"Seeing the youths climbing for the window, the young prince

asked, 'What is it that ye do here?' They told him, and another day the sons of the chief came to climb, and the youth came to climb with them. He climbed, and he reached the window of the daughter of the chief of Naharaina. She kissed him, she embraced him in all his limbs . . . ?"

A HURA'S eyes had strayed to the sky again—to the western Pleiades this time. Their "rise" was slightly slower than that of the eastern Pleiades, owing perhaps to the fact that the former's course coincided with NRGC 984-D's rotational direction, or perhaps to their commander's disinclination to rush matters. Nevertheless, it was evident that the forthcoming battle would take place in the center of NRGC 984-D's heavens—"in" the constellation of the crocodile.

Which were the good guys and which were the bad? Hall wondered. Certainly, their ideological differences weren't apparent at this distance. Would the differences be apparent to an objective observer such as the Sphinx from *any* distance?

Hall grinned wryly. Ahura was twining and untwining her fingers on her lap, and a barely perceptible quivering was going on in her lower lip. He moved a little closer to her, wanting to put his arm around her but not quite daring to. "Get on with your

story," he said. "You left me hanging on a cliff seventy cubits high."

Her bewilderment would have been comical under less trying conditions. "Thou speakest in riddles, Dan'el. In many ways thou art like She-who-builds-sepulchers. But I will tell thee the rest of the tale.

"When the chief off Naharaina saw that the young prince had indeed reached the window of his daughter he gave to him his daughter to wife; he gave also to him a house, and serfs, and fields, also cattle and all manner of good things. And after the days of these things were passed, the youth said to his wife, 'I am doomed to three fates—a crocodile, a serpent, and a dog.' She said to him, 'Let one kill the dog which belongs to thee.' He replied to her, 'I am not going to kill my dog, which I have brought up from when it was small.' And she feared greatly for her husband, and would not let him go alone abroad.

"And one went with the youth toward the land of Egypt, to travel in that country, and with him also went his dog. Behold the crocodile of the river, he came out by the town in which the youth was. And in that town was a mighty man. And the mighty man would not suffer the crocodile to escape. And when the crocodile was bound, the mighty

man went out and walked abroad. And when the sun rose the mighty man went back to the house; and he did so every day, during two months of days.

"Now when the days passed after this, the youth sat making a good day in his house. And when the evening came he lay down on his bed, sleep seized upon his limbs; and his wife filled a bowl of milk, and placed it by his side. Behold the dog, it

hand; he will also give thee the others.' And he sacrificed to God, adoring him, and praising his spirits from day to day.

"And when the days were passed after these things, the youth went to walk in the fields of his domain. He went not alone, behold his dog was following him. And his dog ran aside after the wild game, and he followed the dog. He came to the river, and entered the river behind his dog. Then—"



entereth into the house, and behind it came a serpent to bite the youth; behold his wife sitting by him, she lay not down. Thereupon the servants gave milk to the serpent, and he drank, and was drunk, and lay upside down. Then his wife made it to perish with the blows of her dagger. And they woke her husband, who was astonished; and she said unto him: 'Behold they God has given one of thy dooms into thy

A BRUPTLY Ahura paused as a beam of blinding light leaped from the eastern to the western Pleiades, glanced from a deflector screen and lanced through NRGC 984-D's atmosphere, narrowly missing the mountains that formed the western boundary of the Sphinx's demesne. The Sphinx, silhouetted darkly against the eastern heavens, did not move.

Trembling, the girl raised her hands and pressed them tightly against her mouth. "It's all right," Hall said, "scream if you want to. No one ever had a better right to."

Another blinding beam—this one from the western Pleiades—speared the heavens, ricocheted from an enemy deflector, and arrowed off into deep space. The law of averages made it an even bet that the next one would strike NRGC 984-D dead center,

gouge a crater two thousand miles deep, and precipitate a tectonic revolution. It was also an even bet that the tectonic revolution would give birth to a series of others and that the accompanying seismic and volcanic activity would alter every fact of NRGC 984-D's surface features and in the process destroy every living being on the planet.

"The object of the game," Hall went on, momentarily forgetting that his audience hailed from the twenty-ninth century B.C., "is for one fleet to penetrate the deflector screens of the other. This isn't as impossible as it sounds. Deflector screens utilize a rhythmic frequency, and the trick is to hit them on the offbeat. Vulnerable as they are, though, they provide considerable protection, and I'd give my eyeteeth to have one over us right now. Well no, I'll qualify that: I'd give my eyeteeth to have one over us right now if it weren't for the fact that they won't function except in a vacuum."

Ahura's hands were still pressed tightly against her mouth, and she was rocking gently back and forth. "I do not understand thee, Dan'el," she moaned. "I understand only that Sebek is greatly displeased and that Keb the Earth is in danger."

"You understand far more than that, Ahura. As a matter of

fact, in your own way you know as much about what is happening as I do. You know that mankind is about to destroy himself because of his dog—his selfishness. That's why you can't get the story of the doomed prince out of your mind. The doomed prince is mankind, Ahura, only he isn't quite doomed. There's still hope for him. There's still hope for you and me—and She-who-builds-sepulchers. Tell me the rest of it, Ahura."

She had stopped rocking back and forth, and now she returned her hands to her lap. "There is but little left to tell thee, Dan'el. After the prince entered the river behind his dog there came out the crocodile, and took him to the place where the mighty man was. And the crocodile said to the prince, 'I am thy doom, following after thee.'* And there endeth the tale."

"So actually," Hall said, "we don't know for certain whether the crocodile got him or not. He may very well have escaped it in the end."

"Yes, but there is still the dog, Dan'el."

"There will always be the dog. But maybe by recognizing it for what it really is we can curtail its activities." He looked at the sky, gasped. "Ahura, look!—they're going away!"

*Ahura's tale is an adaptation of the Egyptian story, "The Doomed Prince".

She, too, was staring at the Pleiades. They were rapidly fading from sight, one set of them into the eastern reaches of the heavens, the other set into the western reaches. Abruptly, one set winked out as its hyperdrives went into effect. A moment later, the other followed suit. "Did—did we escape the crocodile, Dan'el?"

Hall hugged her. "We sure did And all of a sudden I'm as hungry as a horse. Does that offer you made a little while ago still stand?"

She slipped free from his arms, not haughtily, but hesitantly, as though she weren't quite sure whether she wanted to be free or not. "I will prepare thee a feast fit for a king," she said. "Come."

The Ambassadors

Well, said the Sphinx, it looks as though you two are going to live happily together ever after, after all, as they say in your planet's folklore. Where's Ahura now? I broke contact with you after you went into the Temple of Love.

She's tidying up the kitchen, Hall answered gazing up into the starlit Brobdingnagian face. *Incidentally, I was right when I told her that she probably could not even boil water. Would you believe it?—I had to show her how!*

But she learned readily enough, did she not? You'll find her equally as receptive when you begin teaching her full time.

Who said I was going to teach her at all? And while we're on the subject, just what am I supposed to teach her, and why?

Everything you can. As to why, it would be rather impractical for you not to, don't you think, in view of the fact that you and she are going to be representing my sisters and myself on Earth in the negotiating of a million-year peace treaty between Pornos, Earth, and Uvel? Meanwhile, the Uvellian scout whom my sister in the neighboring dhen captured will be similarly engaged on Uvel.

Hall was thunderstruck. So that's what you've got up your sleeve! But whatever gave you the idea that I'd make a good ambassador?

It was a gamble, Daniel Hall, but it paid off. You haven't a great deal of diplomacy, but I can teach you diplomacy. The really important attributes, you already have. You have intelligence, and you are brave. Underneath your flippant exterior you are kind and gentle, but you can be firm when the occasion demands. Most important of all, you have motivation. Ever since you played a part in the destruction of the Deimos Dissenters you've hated war and everything it

stands for. With someone like Ahura working at your side, there's no limit to what you can accomplish in the cause of peace, Daniel Hall. As man and wife, the two of you will—

"Wait a minute!" Hall interrupted. "You're carrying this thing too far!"

Come now, Daniel Hall, you're half in love with her already, and you know it. And you might as well know, too, that she's already half in love with you. I not only "heard" everything both of you said, I also experienced everything both of you felt. My sister in the next demesne "tells" me that her scout and her princess hit it off well, too.

Her princess?

She brought a princess back from Uvel just as I brought one back from Earth. We're going to arrange a double wedding ceremony that will comply with the customs of the four different religions which will be represented. I myself have been chosen to do the officiating. This will in no way conflict with the religions of the two princesses, and I'm sure that both you and the Uvelian scout are sufficiently sophisticated in such matters not to raise any objections. I've already built you and Ahura a love nest in my largest pyramid—not altogether authentic as regards her background, but authentic enough to satisfy her—and modern enough

to satisfy you, as you will see presently when Ahura's education permits her to take such "miracles" as electricity and hot-and cold-running water in her stride.

HALL threw up his hands. All right, we'll let all that pass for the moment. Right now, suppose you drop that deep and mysterious mien of yours and break down and tell me how you managed to put a stop to the greatest space battle ever contemplated and to put two of the mightiest space armadas ever assembled to rout?

The Sphinx laughed, softly this time. You already know part of the answer, Daniel Hall. You know that we're parthenogenetic. You know that we build pyramids—or what you think of as pyramids. And you know that some of your legends depict us with wings. How do you account for that, Daniel Hall? Why should we be depicted with wings when we don't have any and never did?

The truth dawned on Hall then. "You lay eggs!" he gasped.

We do indeed. And we incubate them in inviolable capsules that lend the illusion of invisibility. These capsules are placed just beneath the apexes of the structures that you call "pyramids" but which we call "nests". Originally, we did this out of instinct

alone; now, we do it out of knowledge as well. Owing to the length of the incubation period—some fifty-two hundred of your years—nests of this kind are ideal for the survival of our species. They provide protection, they provide warmth, they—

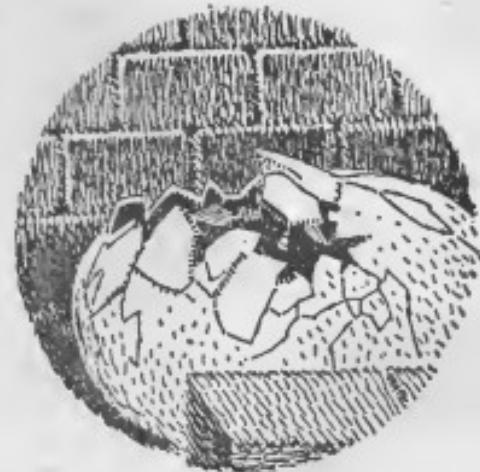
But no egg could possibly contain enough nutrients to nourish an embryo for fifty-two hundred years! Hall objected.

Of course it couldn't. My race obtains ninety-five percent of its nutrition from the sun, Daniel Hall, and your sun is an even better provider than ours is. I may seem to consist of flesh and blood, but I don't—at least not in the sense that you do.

And do you always build three nests of three different sizes?

Always. Our eggs are three in number and our offspring vary in size. Not very much, but enough to necessitate larger or smaller incubation areas. Now that the eggs which I incubated on the Gizeh plateau have hatched, I'm due to procreate again; consequently, I've built three new nests. When the time arrives, I'll remove the as-yet-unsealed apexes, place the eggs in the capsules, which are already in position, and seal the apexes over them.

I can anticipate your next question, Daniel Hall, so there's no need for you to ask it. Incubation time never varies, and can be



computed to the second, and the main reason I and my sister in the neighboring dhen were chosen for the job was that our procreation times were compatible with the Terran and Uvelian time periods that had to be used. At the end of the incubation period an adult rather than a child emerges from the nest. Physically, she's only partially grown, but mentally, she's completely mature, having inherited the parent's knowledge and abilities, plus a sizeable quantity of the parent's judgment. As a result, she's perfectly capable of carrying out whatever commands the parent may have implanted in her embryo-mind at the beginning of incubation. In the case of my Gizeh offspring, the commands which I implanted were three in number: Take over the Terran capital of Kafr el Haran, establish immediate contact with the Terran Space Navy and or-

der all of its units to return to base at once; then retain control of the Terran government until otherwise advised. The commands which my sister implanted in her offspring were basically the same, and her three offspring carried out the Uvel end of the operation at roughly the same time mine were carrying out the Terran end of it. Consequently, both governments are now under the dominion of Pornos, and moreover they will remain under the dominion of Pornos until such time as the million-year peace treaty is signed. Since my sister just notified me that her scout has already agreed to co-operate, the fate of the long-range aspect of our plan is now in your hands, Daniel Hall.

Hall sighed. Oh, I'll go along with you, I suppose—I'd be pret-

ty much of a heel if I didn't. But before we get down to brass tacks how about relieving my mind on a certain little matter? Granted, I'm half in love with Ahura, and maybe she's half in love with me as you say; but there has to be more to it than that for marriage to work. Now that the cisis is past, how about taking a peek a little ways into the future and finding out whether Ahura and I are going to hit it off the way a married couple should?

I'll try, Daniel Hall, said the Sphinx. She looked straight ahead, and Hall could tell from the serious expression on her face that she was concentrating with all her might. A few minutes passed. Then the Sphinx turned to him and winked.

THE END



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THE SPECTROSCOPE

By ROBERT SILVERBERG



ANTHONY GOMES
EARLY MASTERS LIBRARY
1978

Beyond the Barrier, by Damon Knight. 188 pages. Doubleday, \$3.50.

When a man has branded a ten-dollar bill as counterfeit, he is not therefore required to make good the bill out of his own pocket. Thus it is Damon Knight, who as a critic of science fiction has mercilessly and ferociously lambasted the false, the poorly written, and the cynical in science fiction, should not on that account be required to produce a deathless classic of the genre whenever he attempts to write it himself.

What he is required to do is measure up to certain minimal standards of performance, though. Sadly and mystifyingly, this pale, insubstantial novel (serialized recently as "The Tree of Time") hardly makes the grade. Knight the critic would be

the first to flay this book by Knight the writer, if it happened to be by some other hand.

This is Damon Knight's third novel. Since the previous two, though they had many excellences, were fatally flawed by defects of construction, and since this one is more seriously awry than the other two, it seems as though this masterly critic is curiously blind to his own faults. The story here begins in the year 1980 with the problems of a California physics professor named Gordon Naismith, ends some twenty thousand years in the future, and is so poorly cobbled together that only a determined reader is likely to make the journey with the author.

What are the troublos?

Plenty. Problem the first is the protagonist himself, Naismith, a man without a character, a

total cipher who has neither personality nor background nor interests. When Naismith runs into a series of hackneyed dilemmas (people utter incomprehensible words to him, he has strange dreams, he suffers from amnesia, he is the center of a pattern of mysterious deaths) the reader—this one, at least—does not care at all.

The most bloated narrative hook in recent fictional history gets the book off to a wobbly start. For the first 44 pages, poor Naismith is exposed to a chain of perplexing (and, ultimately, irrelevant) events, and he can do nothing but run around desperately asking, "What does it all mean? Why is this happening?" He spends most of the next 144 pages asking the same questions, until Knight rings in a moldy and unconvincing plot gimmick that allows Naismith at last to enjoy some control over his environment. He is acted on throughout, never himself an actor. A short story can sustain such a passive figure at its core; a science fiction novel hardly can, and this one does not. One of the pleasures of reading a novel is watching characters react against one another and against their environment, growing and changing from chapter to chapter. Poor Naismith, that hopeless puppet, neither grows nor changes until

his final improbable all-at-once metamorphosis.

Now and then the story widens to give us glimpses of wonder. Knight's prose is always limpid, always a joy to read, and he takes such delight in showing us the shapes and textures and colors of things that everything is vivid and magical. He touches that chord of wonder that is what science fiction is really all about. But the glimpses are few and far between, and not worth the slogging. (Much of the wonder is second-hand, too. His far-future world, with its decadent aristocrats and sinister servant caste, is lifted bodily from Wells' *Time Machine*; for Eloi and Morlocks, simply read Lenlu Din and Greenskins. The most powerful scene in the book, Naismith's seesaw through the earth, owes its power to an early story of A. E. van Vogt. There are even traces of John Russel Fearn's hoary novel *Liners of Time*, which Knight no doubt read in his teens, almost thirty years ago.)

The worst difficulty is that the book is an extended short story, not a novel, and has barely enough plot to suffice for a short story. If there is to be no counterpoint of character development—and there is none here—there must be counterpoint of plot, or the book falls flat. It staggers the mind to think that

so acute a student of narrative technique as Damon Knight could have produced this half-baked, limping job.

The Moon People, by Stanton A. Coblenz. 191 pages. Avalon Books, \$2.95.

Whatever the faults of Damon Knight's novel reviewed above, it is a gem of purest ray serene compared with this woeful, trashy book. Stanton A. Coblenz is a writer who hit on a formula for science fiction novels more than thirty-five years ago, and has stuck with mindless persistence to his formula ever since. His many books, most of them written in the 1930's, are interchangeable and equally addlepated, though some of them—such as *After 12,000 Years*, *Into Plutonian Depths*, and *The Blue Barbarians*—are held up as classics of satire by old-time fans who haven't read them since their childhood.

The unchanging Coblenz formula is to take a couple of human beings and dump them down in an alien society pretty much like our own, except that its people have green or purple skins and names like Grac, Xram, and Mukkle. The bumbleheaded heroes usually get mixed up in some kind of conflict between two or more nations of the aliens, and escape with their skins in the last chapter. This rickety frame-

work allegedly allows Coblenz to spin a satiric tale merrily exposing the foibles of our own society.

Well, there's no reason why it can't make a fine book, as Jonathan Swift showed in the eighteenth century. But Coblenz is so unerringly ham-handed that few readers above the age of twelve are likely to be impressed with the man's rapier wit and keen perceptions. The jokes are elementary, the characterization nonexistent, and the writing is best typified by this paragraph, which I swear I have not invented:

"Whenever the last *thracarf* may have occurred, historians had no record of it. Nevertheless, one had for ages threatened to break out, and therefore both *semispheres* went armed, as the phrase had it, "with all four thumbs," putting four fifths of their resources into *flang*, or "semispheric resistance," which also kept three quarters of the citizens employed. Gigantic as was this drain, the land abounded in prophets who proclaimed that it was too little. It was estimated that a thousand *luggu* (about five hundred miles) of caverns in Wott alone were filled with weapons, awaiting the hour when the *sacarf* would explode into a *thracarf*. And the situation in Poduk was believed to be exactly the same."

Since a *sacarf* is earlier defined as a "dry war," and a *thra-carf* as a "wet war," internal evidence leads me to conclude that this book, a satire on the arms race, was written in the last decade. But it might just as well have been pounded out thirty years ago. We are told that it is 1999, but "the other side of the moon was less known than the surface of Mars." This despite various survey satellites which have already amply photographed the far side of the moon. Two young spacemen disappear while "curving around the moon," but they send something called a "radiogram" before they vanish. The author's idea of how a spaceship crashing on the moon will behave is indescribably funny, though probably not intentionally so. And the aliens, whose dialogue runs to lines like "Itchy thik ub! Itchy thik ub! Quen quicchi quandi!", are not to be tolerated.

The man who picks these books for Avalon happens to be a person of taste and discrimination. He must have had his brain disconnected when he picked this one. As for Coblentz, he has written with some distinction in other fields, and so one can only conclude that he regards science fiction and its readers with contempt, if he can offer a string of books of this sort. It would be nice to think that if we ignored

him, he'd go away. But there'll probably be a dazzling new Coblentz satire next year, and more's the pity.

Oh, yes—the action takes place in caverns inside the moon. The moon has an atmosphere. Quen quicchi quandi!

The Man in the High Castle, by Philip K. Dick. 191 pages. Popular Library, 50¢.

This one hardly needs much indorsement at this late date. Last year the World Science Fiction Convention at Washington, D.C. gave it the "Hugo" award as the best s-f novel of 1962, and the richly deserved honor was roundly applauded, for this brilliant book is one of the finest works in our field in a long time. The new paperback reprint makes it available to those who didn't snap up the hardcover edition, published by Putnam in 1962.

It's a story of a world in which Germany and Japan triumphed in the war; the turning-point of Dick's World-of-If seems to be the attempted assassination of President-elect Roosevelt in 1983. (Curiously, Dick seems to think Roosevelt was already in office when the attempt was made; it's one of the few historical slips in this otherwise meticulous book). The novel takes place in the year 1962, in this other world. The United States

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has been partitioned between Japan and the Reich, and is under occupation. Most of the action takes place in California, under Japanese control, and the book's fascination derives in large measure from Dick's artful depiction of the relationships between conqueror and conquered.

The theme has been handled before, by British novelist Sarban and by the late Cyril Kornbluth. But it has never been handled so well. Dick's prose crackles with excitement, his characters are vividly real, his plotting is stunning.

Interestingly, Popular Library has chosen to conceal the fact that the book is science fiction. It's been packaged as a political novel, bracketed with such recent thrillers as *Fail Safe* and *Seven Days in May*. The strategy backfires a little, since it forces the publisher to leave out a blurb to the effect that this was voted "Best Science Fiction Novel of the Year." And I wonder what mundane readers will think when they pick the book up, believing they're about to get a simple-minded job like those two best-sellers, and find themselves enmeshed in a subtle and uncompromising parallel-world novel. Let's hope they're not too bewildered. This book (which mysteriously didn't get serialized in any science fiction magazine) deserves a wide public.

...or so you say



Dear Cele:

In the name of fairness and assigning credit where credit is due, I would like to point out that I am *not* Harrison Denmark, have never had any of my stories published under that name, nor will I in the future. It is an Accident of Fate that I live in Denmark and Mr. Denmark's first name is Harrison. There is no other connection between us.

Harry Harrison
Snekkersten
Denmark

resting theory for dinosaur extinction.

Mr. Bova's assertion that his speculation on the vital role of grass in causing the extirpation of the huge reptiles had, as far as he knew, "never been proposed elsewhere" stands in need of correction. Kindly pass this information onto him.

That grand speculator of the 20th century, Fred Hoyle, was, I believe, the first in print with this theory, and in a science-fiction novel yet! In Chapter Ten, "Communication Established," of Hoyle's novel, *The Black Cloud*, first published in 1957, Hoyle has his character Joe, the Intelligent Cloud, respond to the question asked by Earth scientists—"to what [do] we owe the emergence of intelligence here on the Earth"—with the following reply:

"Probably to the combination of several circumstances, among which I would rate as

Dear Miss Goldsmith:

Here's just a note to let you know there is absolutely nothing speculatively original in Ben Bova's article, "The Time of Great Dying," in the March 1964 issue of AMAZING. And I was so disappointed, too, as I bought the issue primarily with the hope of encountering a new and ar-

most important the development about fifty million years ago of an entirely new type of plant: the plant that you call grass. The emergence of this plant caused a drastic re-organization of the whole animal world, due to the peculiarity that grass can be cropped to ground level, in distinction from all other plants. As the grasslands spread over the Earth those animals that could take advantage of this peculiarity survived and developed. Other animals declined or became extinct. It seems to have been in this major reshuffle that intelligence was able to gain its first footing on your planet."

And that short paragraph sums up neatly and entirely the whole of Mr. Bova's "original" speculation around which he built his lengthy article, which turned out after all to be just another rehash.

Mr. Bova should do his science-fiction homework before he goes to press.

David M. Massaro
3338 West 94th Street
Cleveland, Ohio 44102

Dear Editor:

For many years I have been a reader of science fiction—to me it is a source of recreation as mystery stories are to many.

Professionally I am a biologist and physician. This is the first letter that I have ever addressed to a publication in the field of science "fact and fiction".

The reason that I am writing is that I have just read the "Fact" article in the March, 1964, issue (vol. 38, no. 3) by Mr. Ben Bova. I know nothing about Mr. Bova's background professionally although it is obvious that he has a considerable store of biological knowledge. However, the article has some serious misstatements and does not deserve to go under the title of "Fact". I shall not try to document all these since I do not wish to take the time to go to original sources. I shall merely enumerate a number of glaring misstatements.

1. P. 73, paragraph 1: "But imagine a catastrophe that scours the Earth clean of every major life form." In the first place the stratigraphic record does not support catastrophism in this sense. Different groups died out at different times, and the end of the Mesozoic probably extended a million years or more. However, there were many forms that can reasonably be considered major, yet escaped the "catastrophe"—the crocodilians for one, the snakes and lizards for another, apparently most terrestrial plant life, many large marine invertebrate

groups, etc. Of course, much depends upon what Mr. Bova has in mind by "major". I infer that he really means size. It is true that most (*all*) of the *large* terrestrial reptiles perished, but enormous plants like the sequoias survived.

2. P. 74, paragraph 1: Mr. Bova errs when he states that prior to the (Permean) ice age the land was inhabited only by "... and amphibians." There were perfectly good reptiles in the Carboniferous period preceding the Permean (the last Paleozoic era); and the Carboniferous was by all geological evidence one of the hottest eras in geological time.

3. P. 74, 2nd paragraph: it follows that the statement "reptiles evolved early in the Mesozoic" is wrong if, as I assume, Mr. Bova means that they began then. They are found in latter Paleozoic sediments beginning in the Pennsylvanian (late Carboniferous), when they were quite amphibian-like.

By Permean time they had already evolved, *inter alia*, the theorocephalians, which ultimately gave rise to the mammals.

4. P. 76, footnote: it is misleading to say that the tuatara is a "direct descendant of the Rhynchocephalian . . ."; the tuatara is a rhynchocephalian, the last of its order.

5. Pp. 80-81: Mr. Bova misses

the most important argument against a destructive supernova. The major reason that modern vertebrates are radiation-sensitive is that their hematopoietic (blood-forming) system is destroyed by relatively low levels of irradiation as compared with the structures of most organisms. Since this is true today for the vertebrates, there is no reason to suppose it would have been any the less true for the vertebrates of the late Mesozoic. So such a catastrophe affecting the reptiles should have been equally effective against the contemporary mammals.

6. P. 81, paragraph 3ff: Mr. Bova's hypothesis about grass cannot be supported. The grasses probably were not a major element in food habits of mammals until the Miocene or possibly late Oligocene—30 or so millions of years after the end of the Mesozoic. It is true that some (but by no means all) paleontologists think there were Cretaceous grasses, and the same applies to the Paleocene and Eocene (the first two Tertiary epochs). But these are contested points; and in any event specialization for eating grass (as in the horses) did not evolve until late Oligocene or Miocene times. The giant archaic mammals of the Paleocene give no evidence from their dentition that they were grass eaters, and

the Paleocene lasted roughly 10 million years!

In closing may I recommend that, when your magazine publishes an article as "fact", it be prepared by a more competent authority. As for Mr. Bova I recommend that he acquaint himself with Stirton's *Time, Life and Man* (1959), an excellent paleontological text, so that, if he essays another article of the kind in question he will be able to write more accurately.

Ellsworth C. Dougherty,
Ph.D., M.D.
Lecturer in Comparative
Nutrition

• Mr. Bova replies: I'm afraid the good Dr. Dougherty missed the main point of "The Time of Great Dying." It doesn't matter when mammals finally adjusted to eating grasses. What counts is that the reptiles never made such an adjustment. The vegetation that fed the reptiles through the Mesozoic largely disappeared—and so did the reptiles!

To go through his letter point by point:

1. Agreed that the word "major" is subject to interpretation. But the end of the Mesozoic was swift, by geological standards, and the list of life forms wiped out during that brief time is staggering; it includes plants and animals of the land, sea, and

air. After all, it was a paleontologist who coined the phrase, "Time of Great Dying."

2. My sources claim that the first reptiles (*Seymouria*, for example) appeared during the Permian, not before it. Prior to the Permian Ice Age there were amphibians that showed signs of developing into reptiles. But I believe that the consensus is still that reptiles proper did not exist until the Permian, and after the Carboniferous period.

3. Instead of "evolved," I should have said that the reptiles "became dominant" early in the Mesozoic. My error.

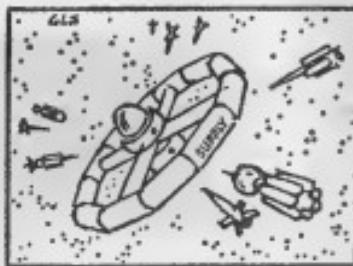
4. Semantics.

5. Agreed. I pointed out that evidence in support of the supernova theory was lacking.

6. This is answered in the first paragraph, above.

As for Mr. Massaro's letter, I must confess that I find Prof. Hoyle's science writing much more exciting and interesting than his science fiction. I never read the Black Cloud. But if Hoyle is the only man to come up with the grass hypothesis before me, I'm both surprised and tickled to death.

Finally, it's good to see some comments—even negative ones—about the article. Speculations about various facets of science should stimulate thinking and letter-writing.



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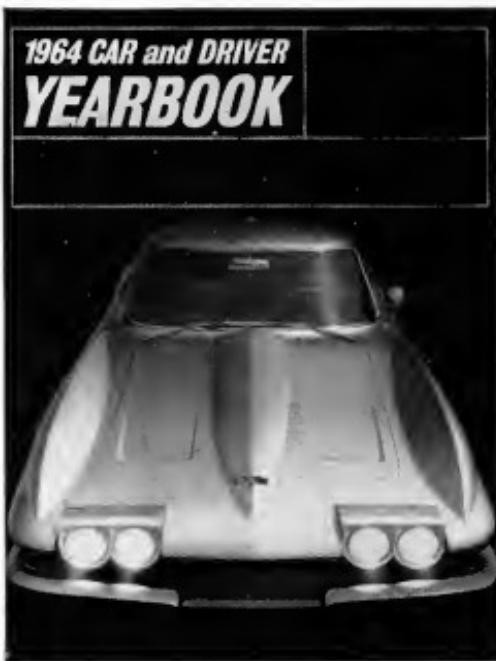
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